Service Manual

Revised September 27, 2005

Lexmark™ T640, T642, and T644

4061-xx0

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Laser notices

Laser notice

The printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR Subchapter J for Class I (1) laser products, and elsewhere is certified as a Class I laser product conforming to the requirements of IEC 60825-1.

Class I laser products are not considered to be hazardous. The printer contains internally a Class IIIb (3b) laser that is nominally a 5 milliwatt gallium arsenide laser operating in the wavelength region of 770-795 nanometers. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance, or prescribed service condition.

Laser

Der Drucker erfüllt gemäß amtlicher Bestätigung der USA die Anforderungen der Bestimmung DHHS (Department of Health and Human Services) 21 CFR Teil J für Laserprodukte der Klasse I (1). In anderen Ländern gilt der Drucker als Laserprodukt der Klasse I, der die Anforderungen der IEC (International Electrotechnical Commission) 60825-1 gemäß amtlicher Bestätigung erfüllt.

Laserprodukte der Klasse I gelten als unschädlich. Im Inneren des Druckers befindet sich ein Laser der Klasse IIIb (3b), bei dem es sich um einen Galliumarsenlaser mit 5 Milliwatt handelt, der Wellen der Länge 770-795 Nanometer ausstrahlt. Das Lasersystem und der Drucker sind so konzipiert, daß im Normalbetrieb, bei der Wartung durch den Benutzer oder bei ordnungsgemäßer Wartung durch den Kundendienst Laserbestrahlung, die die Klasse I übersteigen würde, Menschen keinesfalls erreicht.

Avis relatif à l’utilisation de laser

Pour les Etats-Unis : cette imprimante est certifiée conforme aux provisions DHHS 21 CFR alinéa J concernant les produits laser de Classe I (1). Pour les autres pays : cette imprimante répond aux normes IEC 60825-1 relatives aux produits laser de Classe I.

Les produits laser de Classe I sont considérés comme des produits non dangereux. Cette imprimante est équipée d’un laser de Classe IIIb (3b) (arséniure de gallium d’une puissance nominale de 5 milliwatts) émettant sur des longueurs d’onde comprises entre 770 et 795 nanomètres. L’imprimante et son système laser sont conçus pour impossible, dans des conditions normales d’utilisation, d’entretien par l’utilisateur ou de révision, l’exposition à des rayonnements laser supérieurs à des rayonnements de Classe I .

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Avvertenze sui prodotti laser

Questa stampante è certificata negli Stati Uniti per essere conforme ai requisiti del DHHS 21 CFR Sottocapitolo J per i prodotti laser di classe 1 ed è certificata negli altri Paesi come prodotto laser di classe 1 conforme ai requisiti della norma CEI 60825-1.

I prodotti laser di classe non sono considerati pericolosi. La stampante contiene al suo interno un laser di classe IIIb (3b) all'arseniuro di gallio della potenza di 5mW che opera sulla lunghezza d'onda compresa tra 770 e 795 nanometri. Il sistema laser e la stampante sono stati progettati in modo tale che le persone a contatto con la stampante, durante il normale funzionamento, le operazioni di servizio o quelle di assistenza tecnica, non ricevano radiazioni laser superiori al livello della classe 1.

Avisos sobre el láser

Se certifica que, en los EE.UU., esta impresora cumple los requisitos para los productos láser de Clase I (1) establecidos en el subcapítulo J de la norma CFR 21 del DHHS (Departamento de Sanidad y Servicios) y, en los demás países, reúne todas las condiciones expuestas en la norma IEC 60825-1 para productos láser de Clase I (1).

Los productos láser de Clase I no se consideran peligrosos. La impresora contiene en su interior un láser de Clase IIIb (3b) de arseniuro de galio de funcionamiento nominal a 5 milivatios en una longitud de onda de 770 a 795 nanómetros. El sistema láser y la impresora están diseñados de forma que ninguna persona pueda verse afectada por ningún tipo de radiación láser superior al nivel de la Clase I durante su uso normal, el mantenimiento realizado por el usuario o cualquier otra situación de servicio técnico.

Declaração sobre Laser

A impressora está certificada nos E.U.A. em conformidade com os requisitos da regulamentação DHHS 21 CFR Subcapítulo J para a Classe I (1) de produtos laser. Em outros locais, está certificada como um produto laser da Classe I, em conformidade com os requisitos da norma IEC 60825-1.

Os produtos laser da Classe I não são considerados perigosos. Internamente, a impressora contém um produto laser da Classe IIIb (3b), designado laser de arseneto de potássio, de 5 milliwatts ,operando numa faixa de comprimento de onda entre 770 e 795 nanómetros. O sistema e a impressora laser foram concebidos de forma a nunca existir qualquer possiblidade de acesso humano a radiação laser superior a um nível de Classe I durante a operação normal, a manutenção feita pelo utilizador ou condições de assistência prescritas.

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Laserinformatie

De printer voldoet aan de eisen die gesteld worden aan een laserprodukt van klasse I. Voor de Verenigde Staten zijn deze eisen vastgelegd in DHHS 21 CFR Subchapter J, voor andere landen in IEC 60825-1.

Laserprodukten van klasse I worden niet als ongevaarlijk aangemerkt. De printer is voorzien van een laser van klasse IIIb (3b), dat wil zeggen een gallium arsenide-laser van 5 milliwatt met een golflengte van 770-795 nanometer. Het lasergedeelte en de printer zijn zo ontworpen dat bij normaal gebruik, bij onderhoud of reparatie conform de voorschriften, nooit blootstelling mogelijk is aan laserstraling boven een niveau zoals voorgeschreven is voor klasse 1.

Lasermeddelelse

Printeren er godkendt som et Klasse I-laserprodukt, i overenstemmelse med kravene i IEC 60825-1.

Klasse I-laserprodukter betragtes ikke som farlige. Printeren indeholder internt en Klasse IIIB (3b)-laser, der nominelt er en 5 milliwatt galliumarsenid laser, som arbejder på bølgelængdeområdet 770-795 nanometer. Lasersystemet og printeren er udformet således, at mennesker aldrig udsættes for en laserstråling over Klasse I-niveau ved normal drift, brugervedligeholdelse eller obligatoriske servicebetingelser.

Huomautus laserlaitteesta

Tämä kirjoitin on Yhdysvalloissa luokan I (1) laserlaitteiden DHHS 21 CFR Subchapter J -määrityksen mukainen ja muualla luokan I laserlaitteiden IEC 60825-1 -määrityksen mukainen.

Luokan I laserlaitteiden ei katsota olevan vaarallisia käyttäjälle. Kirjoittimessa on sisäinen luokan IIIb (3b) 5 milliwatin galliumarsenidilaser, joka toimii aaltoalueella 770 - 795 nanometriä. Laserjärjestelmä ja kirjoitin on suunniteltu siten, että käyttäjä ei altistu luokan I määrityksiä voimakkaammalle säteilylle kirjoittimen normaalin toiminnan, käyttäjän tekemien huoltotoimien tai muiden huoltotoimien yhteydessä.

VARO! Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

VARNING! Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

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Laser-notis

Denna skrivare är i USA certifierad att motsvara kraven i DHHS 21 CFR, underparagraf J för laserprodukter av Klass I (1). I andra länder uppfyller skrivaren kraven för laserprodukter av Klass I enligt kraven i IEC 60825-1.

Laserprodukter i Klass I anses ej hälsovådliga. Skrivaren har en inbyggd laser av Klass IIIb (3b) som består av en laserenhet av gallium-arsenid på 5 milliwatt som arbetar i våglängdsområdet 770-795 nanometer. Lasersystemet och skrivaren är utformade så att det aldrig finns risk för att någon person utsätts för laserstrålning över Klass I-nivå vid normal användning, underhåll som utförs av användaren eller annan föreskriven serviceåtgärd.

Laser-melding

Skriveren er godkjent i USA etter kravene i DHHS 21 CFR, underkapittel J, for klasse I (1) laserprodukter, og er i andre land godkjent som et Klasse I-laserprodukt i samsvar med kravene i IEC 60825-1.

Klasse I-laserprodukter er ikke å betrakte som farlige. Skriveren inneholder internt en klasse IIIb (3b)-laser, som består av en gallium-arsenlaserenhet som avgir stråling i bølgelengdeområdet 770-795 nanometer. Lasersystemet og skriveren er utformet slik at personer aldri utsettes for laserstråling ut over klasse I-nivå under vanlig bruk, vedlikehold som utføres av brukeren, eller foreskrevne serviceoperasjoner.

Avís sobre el Làser

Segons ha estat certificat als Estats Units, aquesta impressora compleix els requisits de DHHS 21 CFR, apartat J, pels productes làser de classe I (1), i segons ha estat certificat en altres llocs, és un producte làser de classe I que compleix els requisits d'IEC 60825-1.

Els productes làser de classe I no es consideren perillosos. Aquesta impressora conté un làser de classe IIIb (3b) d'arseniür de gal.li, nominalment de 5 mil.liwats, i funciona a la regió de longitud d'ona de 770-795 nanòmetres. El sistema làser i la impressora han sigut concebuts de manera que mai hi hagi exposició a la radiació làser per sobre d'un nivell de classe I durant una operació normal, durant les tasques de manteniment d'usuari ni durant els serveis que satisfacin les condicions prescrites.

Japanese Laser Notice

レーザーに関するお知らせ

このプリンターは、米国ではＤＨＨＳ ２１ ＣＦＲサブチャプターＪのクラスＩ（１）の基準を満たしたレーザー製品であることが証明されています。また米国以外ではＩＥＣ ８２５の基準を満たしたクラスＩのレーザー製品であることが証明されています。

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注意：

本打印机被美国认证合乎 DHHS 21 CFR Subchapter I 对分类 I (1) 激光产品的标准，而在其他地区则被认证合乎 IEC 825 的标准。

分类 I 激光产品一般认为不具危险性，本打印机内部含有分类 IIIb (3b) 的激光，在操作过程中会产生 5 毫瓦含镓及砷的微量激光，其波长范围在 770-795 nm 之间。本激光系统及打印机的设计，在一般操作、使用者维护或规定内的维修情况下，不会使人体接触分类 I 以上等级的辐射。

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Korean Laser Notice

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Safety information

- The safety of this product is based on testing and approvals of the original design and specific components. The manufacturer is not responsible for safety in the event of use of unauthorized replacement parts.
- The maintenance information for this product has been prepared for use by a professional service person and is not intended to be used by others.
- There may be an increased risk of electric shock and personal injury during disassembly and servicing of this product. Professional service personnel should understand this and take necessary precautions.
- **CAUTION:** When you see this symbol, there is a danger from hazardous voltage in the area of the product where you are working. Unplug the product before you begin, or use caution if the product must receive power in order to perform the task.

Consignes de sécurité

- La sécurité de ce produit repose sur des tests et des agréations portant sur sa conception d'origine et sur des composants particuliers. Le fabricant n'assume aucune responsabilité concernant la sécurité en cas d'utilisation de pièces de rechange non agréées.
- Les consignes d'entretien et de réparation de ce produit s'adressent uniquement à un personnel de maintenance qualifié.
- Le démontage et l'entretien de ce produit pouvant présenter certains risques électriques, le personnel d'entretien qualifié devra prendre toutes les précautions nécessaires.
- **ATTENTION :** Ce symbole indique la présence d'une tension dangereuse dans la partie du produit sur laquelle vous travaillez. Débranchez le produit avant de commencer ou faites preuve de vigilance si l'exécution de la tâche exige que le produit reste sous tension.

Norme di sicurezza

- La sicurezza del prodotto si basa sui test e sull'approvazione del progetto originale e dei componenti specifici. Il produttore non è responsabile per la sicurezza in caso di sostituzione non autorizzata delle parti.
- Le informazioni riguardanti la manutenzione di questo prodotto sono indirizzate soltanto al personale di assistenza autorizzato.
- Durante lo smontaggio e la manutenzione di questo prodotto, il rischio di subire scosse elettriche e danni alla persona è più elevato. Il personale di assistenza autorizzato deve, quindi, adottare le precauzioni necessarie.
- **ATTENZIONE:** Questo simbolo indica la presenza di tensione pericolosa nell'area del prodotto. Scollegare il prodotto prima di iniziare o usare cautela se il prodotto deve essere alimentato per eseguire l'intervento.

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Sicherheitshinweise

- Die Sicherheit dieses Produkts basiert auf Tests und Zulassungen des ursprünglichen Modells und bestimmter Bauteile. Bei Verwendung nicht genehmigter Ersatzteile wird vom Hersteller keine Verantwortung oder Haftung für die Sicherheit übernommen.
- Die Wartungsinformationen für dieses Produkt sind ausschließlich für die Verwendung durch einen Wartungsfachmann bestimmt.
- Während des Auseinandernehmens und der Wartung des Geräts besteht ein zusätzliches Risiko eines elektrischen Schlags und körperlicher Verletzung. Das zuständige Fachpersonal sollte entsprechende Vorsichtsmaßnahmen treffen.
- **ACHTUNG:** Dieses Symbol weist auf eine gefährliche elektrische Spannung hin, die in diesem Bereich des Produkts auftreten kann. Ziehen Sie vor den Arbeiten am Gerät den Netzstecker des Geräts, bzw. arbeiten Sie mit großer Vorsicht, wenn das Produkt für die Ausführung der Arbeiten an den Strom angeschlossen sein muß.

Pautas de Seguridad

- La seguridad de este producto se basa en pruebas y aprobaciones del diseño original y componentes específicos. El fabricante no es responsable de la seguridad en caso de uso de piezas de repuesto no autorizadas.
- La información sobre el mantenimiento de este producto está dirigida exclusivamente al personal cualificado de mantenimiento.
- Existe mayor riesgo de descarga eléctrica y de daños personales durante el desmontaje y la reparación de la máquina. El personal cualificado debe ser consciente de este peligro y tomar las precauciones necesarias.
- **PRECAUCIÓN:** este símbolo indica que el voltaje de la parte del equipo con la que está trabajando es peligroso. Antes de empezar, desenchufe el equipo o tenga cuidado si, para trabajar con él, debe conectarlo.

Informações de Segurança

- A segurança deste produto baseia-se em testes e aprovações do modelo original e de componentes específicos. O fabricante não é responsável pela segunrança, no caso de uso de peças de substituição não autorizadas.
- As informações de segurança relativas a este produto destinam-se a profissionais destes serviços e não devem ser utilizadas por outras pessoas.
- Risco de choques eléctricos e ferimentos graves durante a desmontagem e manutenção deste produto. Os profissionais destes serviços devem estar avisados deste facto e tomar os cuidados necessários.
- **CUIDADO:** Quando vir este símbolo, existe a possível presença de uma potencial tensão perigosa na zona do produto em que está a trabalhar. Antes de começar, desligue o produto da tomada eléctrica ou seja cuidadoso caso o produto tenha de estar ligado à corrente eléctrica para realizar a tarefa necessária.

Informació de Seguretat

- La seguretat d'aquest producte es basa en l'avaluació i aprovació del disseny original i els components específics.
  El fabricant no es fa responsable de les qüestions de seguretat si s'utilitzen peces de recanvi no autoritzades.
- La informació pel manteniment d'aquest producte està orientada exclusivament a professionals i no està destinada a ningú que no ho sigui.
- El risc de xoc elèctric i de danys personals pot augmentar durant el procés de desmuntatge i de servei d'aquest producte. El personal professional ha d'estar-ne assabentat i prendre les mesures convenients.
- **PRECAUCIÓ:** aquest símbol indica que el voltatge de la part de l'equip amb la qual esteu treballant és perillós. Abans de començar, desendolleu l'equip o extremeu les precaucions si, per treballar amb l'equip, l'heu de connectar.

안전 사항

- 본 제품은 원래 설계 및 특정 구성품에 대한 테스트 결과로 안정성이 입증된 것입니다. 따라서 무허가 교체부품을 사용하는 경우에는 제조업체에서 안전에 대한 책임을 지지 않습니다.
- 본 제품에 관한 유지 보수 설명서는 전문 서비스 기술자 용으로 작성된 것이므로, 비 전문가는 사용할 수 없습니다.
- 본 제품을 해체하거나 정비할 경우, 전기적인 충격을 받거나 상처를 입을 위험이 커집니다. 전문 서비스 기술자는 이 사실을 숙지하고, 필요한 예방 조치를 취하도록 하십시오.
- **주의:** 이 표시는 해당영역에서 고압전류가 흐른다는 위험표시 입니다. 시작전에 플러그를 뽑으시거나, 주의를 기울여 주시기 바랍니다.

安全信息

- 本产品的安全性以原来设计和特定产品的测试结果和认证为基础。万一使用未经许可的替换部件，制造商不对安全性负责。
- 本产品的维护信息仅供专业服务人员使用，并不打算让其他人使用。
- 本产品在拆卸、维修时，遭受电击或人员受伤的危险性会增高，专业服务人员对这点必须有所了解，并采取必要的预防措施。
- **切记：**当您看到此符号时，说明在您工作的产品区域有危险电压的存在。请在开始操作前拔掉产品的电源线，或者在产品必须使用电源来执行任务时，小心从事。

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Preface

This manual contains maintenance procedures for service personnel. It is divided into the following chapters:

1. **General information** contains a general description of the printer and the maintenance approach used to repair it. Special tools and test equipment are listed in this chapter, as well as general environmental and safety instructions.
2. **Diagnostic information** contains an error indicator table, symptom tables, and service checks used to isolate failing field replaceable units (FRUs).
3. **Diagnostic aids** contains tests and checks used to locate or repeat symptoms of printer problems.
4. **Repair information** provides instructions for making printer adjustments and removing and installing FRUs.
5. **Connector locations** uses illustrations to identify the connector locations and test points on the printer.
6. **Preventive maintenance** contains the lubrication specifications and recommendations to prevent problems.
7. **Parts catalog** contains illustrations and part numbers for individual FRUs.

Definitions

Note: A note provides additional information.

Warning: A warning identifies something that might damage the product hardware or software.

CAUTION: A caution identifies something that might cause a servicer harm.

CAUTION: When you see this symbol, there is a danger from hazardous voltage in the area of the product where you are working. Unplug the product before you begin, or use caution if the product must receive power in order to perform the task.

1. General information

The Lexmark™ T64x laser printers are letter quality page printers designed to attach to IBM-compatible personal computers and to most computer networks.

The Lexmark T64x laser printers are available in the following models:

Model name	Configuration	Machine type
Lexmark T640	Non-network	4061-000
Lexmark T640n	Network	4061-010
Lexmark T642	Non-network	4061-200
Lexmark T642n	Network	4061-210
Lexmark T644	Non-network	4061-400
Lexmark T644n	Network	4060-410

Maintenance approach

The diagnostic information in this manual leads you to the correct field replaceable unit (FRU) or part. Use the service error codes, user status messages, user error messages, service checks, and diagnostic aids to determine the printer problem and repair the failure. After you complete the repair, perform tests as needed to verify the repair. See **“Start” on page 2-1**.

Options

The following options are available. Some options are not available in every country. Contact your point of purchase for options available in your country.

- Memory options of 128MB, 256MB, and 512 SDRAM
- Flash memory options of 32MB and 64MB
- Hard disk—20GB+ with adapter
- Integrated network options
  - Token-ring
  - Ethernet
  - External serial adapter
  - ThinPrint
  - IPDS card assembly and SCS/TNe
  - PRESCRIBE card assembly
  - Bar code card assembly
  - Parallel interface card
  - MarkNet™ Print Servers
  - Lexmark PrintCryption™ card
  - Forms card (single-byte and Simplified Chinese)
- Media handling operations
  - 250- and 500-sheet paper trays of A4, letter, A5, B5, Executive, folio, statement, and legal size
  - 250-sheet universally adjustable tray
  - 250- and 500-sheet paper drawers
  - 400-sheet universally adjustable tray
  - 2000-sheet high-capacity feeder
  - Envelope feeder

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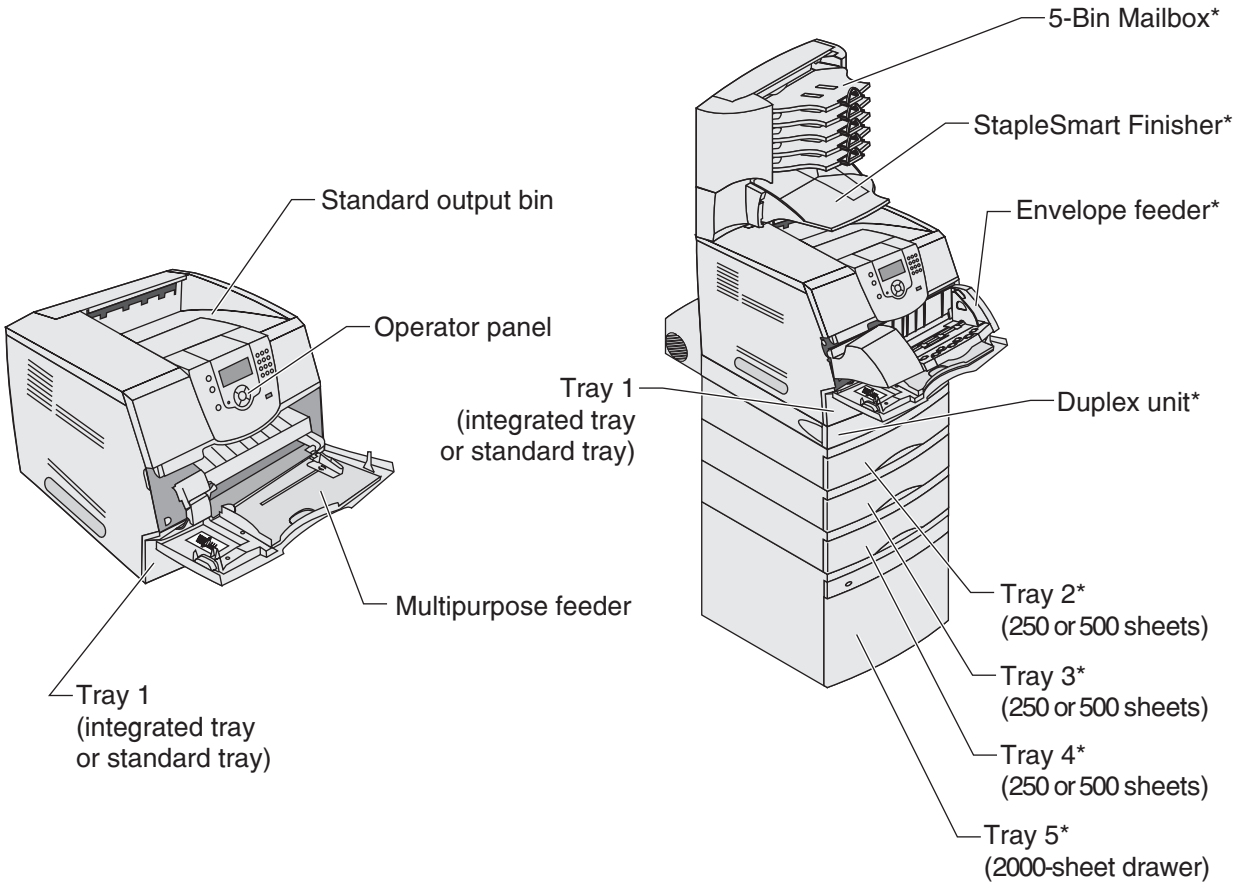
  - Duplex option—250-sheet (For Lexmark T640 and Lexmark T640n)
  - Duplex option—500-sheet (For Lexmark T642, Lexmark T642n, Lexmark T644, and Lexmark T644n)
  - Output expander
  - High-capacity output stacker
  - StapleSmart™ Finisher
  - 5-bin Mailbox
  - Vertical Kiosk Presenter
  - Horizontal Kiosk Presenter
- Application solutions—Lexmark Document Solutions
- DBCS font cards
  - Simplified Chinese
  - Traditional Chinese
  - Japanese
  - Korean

Configured models

The following illustrations show a standard network and fully configured printer. If you attach print media handling options to the printer, it may look more like the fully configured model.



The standard tray holds 250 sheets for the T111 and 500 sheets for the T112.

CAUTION: Floor-mounted configurations require additional furniture. You must use either a printer stand or printer base if you are using a 2000-sheet drawer, a duplex unit and an input option, or more than one input option. If you purchased a multifunction printer (MFP) that scans, copies, and faxes, you may need additional furniture. Refer to **www.lexmark.com/multifunctionprinters** for more information.

Specifications

Resolution

- 1200 1200 dpi
- 2400 Image Quality
- 1200 Image Quality
- 600 x 600 dpi

Data streams

- PostScript 3 emulation
- PCL 6 emulation
- PPDS migration tool
- PDF v1.5 emulation

Print speed and performance print speed

Performance

Performance speed depends on:

- Interface to the host (USB, serial, parallel, network)
- Host system and application
- Page complexity and content
- Printer options installed or selected
- Available printer memory
- Media size and type
- Resolution

Time to first print

	Lexmark T640, Lexmark T640n		**Lexmark T642, Lexmark T642n**		**Lexmark T644, Lexmark T644n**	
	1200 dpi	**600 dpi**	**1200 dpi**	**600 dpi**	**1200**	**600 dpi**
Simplex printing from Ready on full-size media (seconds)						
Letter 8.5 in. x 11 in.	11.7	6.0	12.1	8.5	12.1	8.5
A4 8.3 in. x 11.7 in.	17.0	11.4	22.7	13.0	22.7	13.0
Legal 8.5 in. x 14 in.	14.5	12.1	24.3	24.3	24.3	13.5
Simplex printing from Power Saver on full-size media (seconds)						
Simplex Letter		25.3		28.2		28.2
The test job consists of the character “A” followed by a form-feed (single page job). The first copy time is defined as the elapsed time from pressing **Enter** on the PC keyboard to the page exiting to the output bin. All tests pick paper from the indicated tray, and the page exits into the primary output bin.						

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Memory configuration

Memory type	Models					
	Lexmark T640	Lexmark T640n	Lexmark T642	Lexmark T642n	Lexmark T644	Lexmark T644n
Standard DRAM (MB)	64	64	64	128	128	128
Optional memory (MB) (100 pin DDR SDRAM unbuffered DIMMs)	128, 256, and 512MB available					
Maximum (MB)	576	576	576	640	640	640
Optional flash memory	32 and 64 MB available					
Note: One firmware card and one flash memory card are supported. Either slot supports both card types.						

Depending upon the options and features used, additional memory may be required to optimize performance.

Available memory options

Optional 128MB, 256MB, and 512MB SDRAM DIMMs are available from Lexmark. The memory options are 168-pin synchronous DRAM DIMMs.

Flash memory options include 32MB and 64MB.

Operating clearances

Printer side	Measurement
Left and right side	12 in. (30.48 cm)
Front	20 in. (50.8 cm)
Rear	12 in. (30.48 cm)
Top*	54 in. (137.16 cm)
* Allow clearance above the printer front door clearance and for adding options, such as additional input drawers, output expander, high-capacity output stacker, or StapleSmart finisher.	

Dimensions

Description	Height	Width	Depth	Weight
Printer				
Lexmark T640 (base printer)	13.6 in. (345 mm)	16.6 in. (421 mm)	19.6 in. (498 mm)	38.0 lb (17.0kg)
Lexmark T642 (base printer)	16.0 in. (406 mm)	17.2 in. (436 mm)	20.2 in. (513 mm)	51.6 lb (23.1 kg)
Lexmark T644 (base printer)	16 in. (406 mm)	17.2 in. (436 mm)	20.2 in. (513 mm)	51.6 lb (23.1 kg)
Options				
Duplex 250-page option	2.13 in. (54 mm)	15.6 in. (398 mm)	23.4 in. (595 mm)	11.1 lb (5.03 kg)
Duplex 500-page option	2.13 in. (54 mm)	15.6 in. (398 mm)	24.1 in. (595 mm)	11.3 lb (5.1 kg)
250-Sheet drawer	3.5 in. (90 mm)	15.6 in. (398 mm)	19.5 in. (495 mm)	6 lb (2.7 kg)
500-Sheet drawer	5.3 in. (134 mm)	15.6 in. (398 mm)	20.5 in. (520 mm)	7 lb (3.2 kg)
2,000-Sheet drawer	11.8 in. (300 mm)	15.6 in. (398 mm)	19.5 in. (495 mm)	31 lb (14.1 kg)
Output Expander	6.8 in. (173.2 mm)	15.6 in. (398 mm)	14.9 in. (374 mm)	7.0 lb (3.2 kg)
5-Bin Mailbox	13.1 in. (332 mm)	15.7 in. (399 mm)	12.2 in. (310 mm)	7.9 lb (3.6 kg)
High-capacity output stacker	11.4 in. (290 mm)	15.7 in. (399 mm)	18 in. (457 mm)	10 lb (4.5 kg)
StapleSmart finisher	9.0 in. (228.6 mm)	17.6 in. (447.7 mm)	19.5 in. (495.3 mm)	13 lb (5.9 kg)
Envelope option (closed position)	*	*	7.72 in. (196 mm)	4 lb (1.8 kg)
Envelope option (support fully extended)	*	*	12.28 in. (312 mm)	4 lb (1.8 kg)
Printer cabinet	31.8 in. (808 mm)	30.4 in. (772 mm)	23.2 in. (594 mm)	76 lb (34.5 kg)
Printer cabinet stand	31.8 in. (808 mm)	34.8 in. (883 mm)	23.2 in. (594 mm)	83 lb (37.6 kg)
* Envelope option fits within height and width of printer.				

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Power requirements

Average nominal power requirements for the base printer configuration (110 volt). Power levels are shown in watts (W). Maximum current is given in Amperes (A).

Printing states	**Lexmark T640 Lexmark T640n**	**Lexmark T642 Lexmark T642n**	**Lexmark T644 Lexmark T644n**
Off (all models)	.05 W	.05 W	.05 W
Idle—average power			
Power Saver on	20 W	20 W	20 W
Power Saver off	90 W	95 W	95 W
Continuous printing	675 W	830 W	830 W
Printing—maximum current			
100 V	7.8 A	8.9 A	8.9 A
120 V	7.2 A	8.0 A	8.0 A
230 V	3.4 A	4.1 A	4.1 A

Electrical specifications

Low voltage model

- 100 to 127 V ac at 50 to 60 Hz nominal
- 90 to 137 V ac, extreme

High voltage model

- 220 to 240 V ac at 50 to 60 Hz nominal (not available in all countries)
- 190 to 259 V ac, extreme

Notes:

- Using a 220 to 110 power converter with the 110 volt printer is not recommended.
- All models are ENERGY STAR qualified.
- The default timeout to power saver is 30 minutes for all models.

Environment

Printer temperature and humidity

- Operating
  - Temperature: 16 to 32° C (60° to 90° F)
  - Relative humidity: 8 to 80%
  - Altitude: 10,000 ft. (0 to 3,048 meters)
- Storage and shipping environment (packaged)
  - Temperature: -40° to 43° C (-40° to 110° F)
  - Relative humidity: 5% to 95%
  - Altitude: equivalent to 10,300 meters (0 to 34,000 feet)
- Storage environment (unpacked)
  - Temperature: 0° to 40° C (32° to 104° F)
  - Relative humidity: 5% to 80%

Acoustics

All measurements are made in accordance with ISO 7779 and conform with ISO 9296.

Model	Status	1 Meter average sound pressure	Declared sound power
Lexmark T640(n)	Idle (standby mode)	30 dBA	4.0 Bels
	Simplex printing	53 dBA	6.7 Bels
	Duplex printing	55 dBA	N/M Bels
Lexmark T642(n)	Idle (standby mode)	32 dBA	4.7 Bels
	Simplex printing	54 dBA	6.8 Bels
	Duplex printing	57 dBA	N/M Bels
Lexmark T644(n)	Idle (standby mode)	30 dBA	4.5
	Simplex printing	55	7.0
	Duplex printing	58	N/M
Note: Measurements apply to 300 dpi, 600 dpi, and 1200 dpi printing.			

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Media specifications

Paper and specialty media guidelines

Print media is paper, card stock, transparencies, labels, and envelopes. This printer provides high quality printing on a variety of print media. You must consider a number of things concerning print media before you print, including:

- Supported print media
- Selecting print media
- Storing print media
- Avoiding jams

For more details about the types of paper and specialty media your printer supports, refer to the *Card Stock & Label Guide* available on our Lexmark Web site at **www.lexmark.com**.

We recommend that you try a limited sample of any paper or specialty media you are considering using with the printer before purchasing large quantities.

Supported print media

The following tables provide information on standard and optional sources for both input and output trays and bins.

- Print media sizes
- Print media weights
- Media weights supported in optional output bins
- Media sizes supported in the finisher
- Media weights supported in the finisher

Note: If you use a print media size not listed, select the next larger size.

Print media sizes

Print media size (✓— indicates support)	**Dimensions (UAT — universally adjustable tray)**	**250-sheet tray**	**500-sheet tray**	**250-sheet drawer (option)**	**250 UAT (option)**	**500-sheet drawer (option)**	**400 UAT (option)**	**Multipurpose feeder**	**2000-sheet drawer (option)**	**Envelope feeder (option)**	**Duplex unit (option)**	**Standard output bin**	**Output expander (option)**	**5-bin mailbox (option)**	**High-capacity output stacker (option)**	**StapleSmart output bin**	**StapleSmart Finisher**
A4	210 x 297 mm (8.27 x 11.7 in.)	✓	✓	✓		✓		✓	✓		✓	✓	✓	✓	✓	✓	✓
A5	148 x 210 mm (5.83 x 8.27 in.)	✓	✓	✓		✓		✓	✓		✓	✓	✓	✓	✓		
JIS B5	182 x 257 mm (7.17 x 10.1 in.)	✓	✓	✓		✓		✓	✓		✓	✓	✓	✓	✓	✓	
Letter	215.9 x 279.4 mm (8.5 x 11 in.)	✓	✓	✓		✓		✓	✓		✓	✓	✓	✓	✓	✓	✓
Legal	215.9 x 355.6 mm (8.5 x 14 in.)	✓	✓	✓		✓		✓	✓		✓	✓	✓	✓	✓	✓	✓

Print media sizes (continued)

Print media size (✓— indicates support)	Dimensions (UAT — universally adjustable tray)	250-sheet tray	500-sheet tray	250-sheet drawer (option)	250 UAT (option)	500-sheet drawer (option)	400 UAT (option)	Multipurpose feeder	2000-sheet drawer (option)	Envelope feeder (option)	Duplex unit (option)	Standard output bin	Output expander (option)	5-bin mailbox (option)	High-capacity output stacker (option)	StapleSmart output bin	StapleSmart Finisher
Executive	184.2 x 266.7 mm (7.25 x 10.5 in.)	✓	✓	✓		✓		✓	✓		✓	✓	✓	✓	✓	✓	
Folio[1]	216 x 330 mm (8.5 x 13 in.)	✓	✓	✓		✓		✓			✓	✓	✓	✓	✓	✓	✓
Statement[1]	139.7 x 215.9 mm (5.5 x 8.5 in.)	✓	✓	✓		✓		✓				✓	✓		✓		
Universal[2, 3]	139.7 x 210 mm to 215.9 x 355.6 mm (5.5 x 8.27 in. to 8.5 x 14 in.)	✓	✓	✓	✓	✓											
	69.85 x 127 mm to 215.9 x 355.6 mm (2.75 x 5 in. to 8.5 x 14 in.)							✓				✓	✓		✓		
	148 x 182 mm to 215.9 x 355.6 mm (5.83 x 7.17 in. to 8.5 x 14 in.)										✓						
	76.2 x 127 mm to 215.9 x 355.6 mm[4] (3 x 5 in. to 8.5 x 14 in.)				✓												
	76.2 x 177.8 mm to 215.9 x 355.6 mm (3 x 7 in. to 8.5 x 14 in.)						✓										
7 ¾ Envelope	98.4 x 190.5 mm (3.875 x 7.5 in.)							✓		✓		✓	✓		✓		
9 Envelope	98.4 x 225.4 mm (3.875 x 8.9 in.)							✓		✓		✓	✓		✓		
10 Envelope	104.8 x 241.3 mm (4.12 x 9.5 in.)							✓		✓		✓	✓		✓		
DL Envelope	110 x 220 mm (4.33 x 8.66 in.)							✓		✓		✓	✓		✓		
C5 Envelope	162 x 229 mm (6.38 x 9.01 in.)							✓		✓		✓	✓		✓		
B5 Envelope	176 x 250 mm (6.93 x 9.84 in.)							✓		✓		✓	✓		✓		

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Print media sizes (continued)

Print media size (✓— indicates support)	Dimensions (UAT — universally adjustable tray)	250-sheet tray	500-sheet tray	250-sheet drawer (option)	250 UAT (option)	500-sheet drawer (option)	400 UAT (option)	Multipurpose feeder	2000-sheet drawer (option)	Envelope feeder (option)	Duplex unit (option)	Standard output bin	Output expander (option)	5-bin mailbox (option)	High-capacity output stacker (option)	StapleSmart output bin	StapleSmart Finisher
Other Envelope[1]	98.4 x 162 mm to 176 x 250 mm (3.87 x 6.38 in. to 6.93 x 9.84 in.)							✓		✓		✓	✓		✓		

[1] This size does not appear in the Paper Size menu until Tray Size Sensing is turned off.

[2] This size setting formats the page for 215.9 x 355.6 mm (8.5 x 14 in.) unless the size is specified by the software application.

[3] No universal support for the following options: 2000-sheet drawer, Envelope Feeder, 5-bin mailbox.

[4] 3.5 in. setting not supported if other options are installed above the 250 universally adjustable tray.

Print media types

Print media	250-sheet tray	500-sheet tray	250-sheet drawer (option)	250 UAT (option)	500-sheet drawer (option)	400 UAT (option)	Multipurpose feeder	2000-sheet drawer	Envelope feeder	Duplex unit	Standard output bin	Output expander	5-bin mailbox	High-capacity output stacker	StapleSmart Finisher		
															Standard	Offset	Stapled
Paper	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Card stock	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓		✓	✓		
Transparencies	✓	✓	✓	✓	✓	✓	✓				✓	✓		✓	✓		
Vinyl labels[1, 2]	✓	✓	✓		✓						✓	✓		✓			
Paper labels[1]	✓	✓	✓		✓						✓	✓		✓			
Polyester label[1]	✓	✓	✓		✓						✓	✓		✓			
Dual-web and integrated label[1]	✓	✓	✓		✓						✓	✓		✓			

[1] Printing label applications on the printer requires a special label fuser cleaner which prevents duplexing. The label fuser cleaner is included with a special label cartridge for label applications.

[2] Vinyl labels may require a special media tray.

Print media weights

Print media	Type	Print media weight			
		Integrated tray and optional 500-sheet drawer	**Multipurpose feeder and optional 250-sheet drawer**	**Envelope feeder**	**200-Sheet drawer**
Paper	Xerographic or business paper	60 to 176 g/m^2 grain long (16 to 47 lb bond)	60 to 135 g/m^2 grain long (16 to 36 lb bond)	n/a	60 to 135 g/m^2 (16 to 36 lb bond)
Card stock—maximum (grain long)1	Index Bristol	163 g/m^2 (90 lb)	120 g/m^2 (67 lb)		n/a
	Tag	163 g/m^2 (100 lb)	120 g/m^2 (74 lb)		
	Cover	176 g/m^2 (65 lb)	135 g/m^2 (50 lb)		
Card stock—maximum (grain short)[1]	Index Bristol	199 g/m^2 (110 lb)	163 g/m^2 (90 lb)		
	Tag	203 g/m^2 (125 lb)	163 g/m^2 (100 lb)		
	Cover	216 g/m^2 (80 lb)	176 g/m^2 (65 lb)		
Transparencies	Laser printer	138 to 146 g/m^2 (37 to 39 lb bond)	138 to 146 g/m^2 (37 to 39 lb bond)		
Labels—maximum[2]	Paper	180 g/m^2 (48 lb bond)	163 g/m^2 (43 lb bond)		
	Dual-web paper	180 g/m^2 (48 lb bond)	163 g/m^2 (43 lb bond)		
	Polyester	220 g/m^2 (59 lb bond)	220 g/m^2 (59 lb bond)		
	Vinyl[5]	300 g/m^2 (92 lb liner)	260 g/m^2 (78 lb liner)		
Integrated forms	Pressure-sensitive area (must enter the printer first)	140 to 135 g/m^2	140 to 135 g/m^2		
	Paper base (grain long)	75 to 135 g/m^2 (20 to 36 lb bond)	75 to 135 g/m2 (20 to 36 lb bond)		
Envelopes 100% cotton content maximum weight—24 lb	Sulfite, wood-free or up to 100% cotton bonds	Not recommended	60 to 105 g/m^2 (16 to 28 lb bond)[3, 4]	60 to 105 g/m^2 (16 to 28 lb bond)[3]	

[1] Grain short is preferred for papers over 135 g/m^2.

[2] Printing label applications on your printer requires a special label fuser cleaner which prevents duplexing.

[3] 28 lb envelopes are limited to 25% cotton content.

[4] Includes envelopes fed from the multipurpose feeder only.

[5] Information on whether your vinyl label converter has passed the Lexmark's criteria is available at www.lexmark.com.

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Media weights supported in optional output bins

Print media weight—optional output bins					
Print media	**Type**	**5-bin mailbox**	**Output expander**	**High-capacity output stacker**	**Finisher**
Paper (grain long)	Xerographic or business paper	60 to 90 g/m^2 (16 to 24 lb bond)	60 to 176 g/m^2 (16 to 47 lb bond)	60 to 176 g/m^2 (16 to 47 lb bond)	See **"Media weights supported in the finisher" on page 1-14**.
Card stock—maximum (grain long)	Index Bristol	Not recommended	163 g/m^2 (90 lb)	163 g/m^2 (90 lb)	
	Tag		163 g/m^2 (100 lb)	163 g/m^2 (100 lb)	
	Cover		176 g/m^2 (65 lb)	176 g/m^2 (65 lb)	
Card stock—maximum (grain short)	Index Bristol		199 g/m^2 (110 lb)	199 g/m^2 (110 lb)	
	Tag		203 g/m^2 (125 lb)	203 g/m^2 (125 lb)	
	Cover		216 g/m^2 (80 lb)	216 g/m^2 (80 lb)	
Transparencies	Laser printer		138 to 146 g/m^2 (37 to 39 lb bond)	138 to 146 g/m^2 (37 to 39 lb bond)	
Labels—maximum	Paper		180 g/m^2 (48 lb bond)	180 g/m^2 (48 lb bond)	
	Dual-web paper		180 g/m^2 (48 lb bond)	180 g/m^2 (48 lb bond)	
	Polyester		220 g/m^2 (59 lb bond)	220 g/m^2 (59 lb bond)	
	Vinyl[5]		300 g/m^2 (92 lb liner)	300 g/m^2 (92 lb liner)	
Integrated forms	Pressure sensitive area (must enter the printer first)		140 to 175 g/m^2 (up to 47 lb bond)	140 to 175 g/m^2 (up to 47 lb bond)	
	Paper base (grain long)		75 to 135 g/m^2 (20 to 36 lb bond)	75 to 135 g/m^2 (20 to 36 lb bond)	
Envelopes	Sulfite, wood-free or up to 100% cotton bond		60 to 105 g/m^2 (16 to 28 lb bond)	60 to 105 g/m^2 (16 to 28 lb bond)	Not recommended

[1] Grain short is preferred for papers over 135 g/m^2.

[2] Printing label applications on your printer requires a special label fuser cleaner which prevents duplexing.

[3] 28 lb envelopes are limited to 25% cotton content.

[4] Includes envelopes fed from the multipurpose feeder only.

[5] Information on whether your vinyl label converter has passed the Lexmark's criteria is available at www.lexmark.com.

Media sizes supported in the finisher

Size	Dimensions	Finisher output support		
		Standard[1]	Offset	Stapled
A4	210 x 297 mm (8.27 x 11.7 in.)	✓	✓	✓
A5	148 x 210 mm (5.83 x 8.27 in.)			
JIS B5	182 x 257 mm (7.17 x 10.1 in.)	✓		
Letter	215.9 x 279.4 mm (8.5 x 11 in.)	✓	✓	✓
Legal	215.9 x 355.6 mm (8.5 x 14 in.)	✓	✓	✓
Executive	184.2 x 266.7 mm (7.25 x 10.5 in.)	✓		
Folio[2]	216 x 330 mm (8.5 x 13 in.)	✓	✓	✓
Statement[2]	139.7 x 215.9 mm (5.5 x 8.5 in.)			
7 ¾ Envelope	98.4 x 190.5 mm (3.875 x 7.5 in.)			
9 Envelope	98.4 x 225.4 mm (3.875 x 8.9 in.)			
10 Envelope	104.8 x 241.3 mm (4.12 x 9.5 in.)			
DL Envelope	110 x 220 mm (4.33 x 8.66 in.)			
C5 Envelope	162 x 229 mm (6.38 x 9.01 in.)	✓		
B5 Envelope	176 x 250 mm (6.93 x 9.84 in.)	✓		
Other Envelope	98.4 x 162 mm to 176 x 250 mm (3.87 x 6.38 in. to 6.93 x 9.84 in.)			

[1] Paper passes to the finisher bin without being stapled or offset.

[2] This size does not appear in the Paper Size menu until Tray Size Sensing is turned off.

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Media weights supported in the finisher

Print media	Type	Finisher media weight		
		Standard*	**Offset**	**Stapled**
Paper	Xerographic or business paper	60 to 176 g/m^2 (16 to 47 lb bond)	60 to 90 g/m^2 (16 to 24 lb bond)	60 to 90 g/m^2 (16 to 24 lb bond)
Card stock—maximum (grain long)	Index Bristol	163 g/m^2 (90 lb bond)	163 g/m^2 (90 lb bond)	Not recommended
	Tag	163 g/m^2 (100 lb bond)	163 g/m^2 (100 lb bond)	
	Cover	176 g/m^2 (65 lb bond)	176 g/m^2 (65 lb bond)	
Card stock—maximum (grain short)	Index Bristol	199 g/m^2 (110 lb bond)	199 g/m^2 (110 lb bond)	Not recommended
	Tag	203 g/m^2 (125 lb bond)	203 g/m^2 (125 lb bond)	
	Cover	216 g/m^2 (80 lb bond)	216 g/m^2 (80 lb bond)	
Transparencies	Laser printer	138 to 146 g/m^2 (37 to 39 lb bond)	138 to 146 g/m^2 37 to 39 lb bond)	Not recommended
Integrated forms	Pressure sensitive area	140 to 175 g/m^2 (up to 47 lb bond)	Not recommended	Not recommended
	Paper base (grain long)	75 to 135 g/m^2 (20 to 36 lb bond)		
Labels — upper limit	Paper	180 g/m^2 (48 lb bond)	Not recommended	Not recommended
	Dual-web paper	180 g/m^2 (48 lb bond)		
	Polyester	220 g/m^2 (59 lb bond)		
	Vinyl	300 g/m^2 (92 lb bond)		
Envelopes	Sulfite, wood-free or up to 100% cotton bond	60 to 105 g/m^2 (16 to 28 lb bond)	Not recommended	Not recommended

Selecting print media

Selecting the appropriate print media for your printer helps you avoid printing problems. The following sections contain guidelines for choosing the correct print media for your printer.

- Paper
- Transparencies
- Envelopes
- Labels
- Card stock

Paper

For the best print quality, use 75 g/m^2 (20 lb) xerographic, grain long paper. Try a sample of any paper you are considering using with the printer before buying large quantities.

When loading paper, note the recommended print side on the paper package, and load paper accordingly.

Paper characteristics

The following paper characteristics affect print quality and reliability. We recommend that you follow these guidelines when evaluating new paper stock.

For detailed information, refer to the *Card Stock & Label Guide* located on the Lexmark Web site at **www.lexmark.com**.

The laser printing process heats paper to high temperatures of 225°C (437°F) for Magnetic Ink Character Recognition (MICR) applications, and 205°C (401°F) for non-MICR applications. Use only paper able to withstand these temperatures without discoloring, bleeding, or releasing hazardous emissions. Check with the manufacturer or vendor to determine whether the paper you have chosen is acceptable for laser printers.

Weight

The printer can automatically feed paper weights from 60 to 176 g/m^2 (16 to 47 lb bond) grain long in the integrated and optional 500–sheet trays and paper weights from 60 to 135 g/m^2 (16 to 36 lb bond) grain long in the multipurpose feeder and optional 250–sheet trays. Paper lighter than 60 g/m^2 (16 lb) might not be stiff enough to feed properly, causing jams. For best performance, use 75 g/m^2 (20 lb bond) grain long paper. When using paper narrower than 182 x 257 mm (7.2 x 10.1 in.), make sure the weight is greater than or equal to 90 g/m^2 (24 lb bond).

Unacceptable paper

The following papers are not recommended for use with the printer:

- Chemically treated papers used to make copies without carbon paper, also known as carbonless papers, carbonless copy paper (CCP), or no carbon required (NCR) paper
- Preprinted papers with chemicals that may contaminate the printer
- Preprinted papers that can be affected by the temperature in the printer fuser
- Preprinted papers that require a *registration* (the precise print location on the page) greater than ±0.09 in., such as optical character recognition (OCR) forms
- In some cases, you can adjust registration with your software application to successfully print on these forms.
- Coated papers (erasable bond), synthetic papers, thermal papers
- Rough-edged, rough or heavily textured surface papers or curled papers
- Recycled papers containing more than 25% post-consumer waste that do not meet DIN 19 309
- Recycled paper having a weight less than 60 g/m^2 (16 lb)
- Multiple-part forms or documents

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Transparencies

You can feed transparencies from the standard tray (250-sheet tray for the T111 or 500-sheet tray for the T112), optional 250- or 500-sheet trays, or the multipurpose feeder. Try a sample of any transparencies you are considering using with the printer before buying large quantities.

When printing on transparencies:

- Be sure to set the Paper Type to Transparency from the printer driver or the Local Printer Setup Utility to avoid damaging your printer.
- Use transparencies designed specifically for laser printers. Transparencies must be able to withstand temperatures of 225°C (437°F) without melting, discoloring, offsetting or releasing hazardous emissions.
- To prevent print quality problems, avoid getting fingerprints on the transparencies.
- Before loading transparencies, fan the stack to prevent sheets from sticking together.

Selecting transparencies

The printer can print directly on transparencies designed for use in laser printers. Print quality and durability depend on the transparency used. Always print samples on the transparencies you are considering before buying large quantities.

The Paper Type setting should be set to Transparency to help prevent jams. Check with the manufacturer or vendor to determine whether your transparencies are compatible with laser printers that heat transparencies to 225°C (437°F). Use only transparencies that are able to withstand these temperatures without melting, discoloring, offsetting, or releasing hazardous emissions. For detailed information, refer to the *Card Stock & Label Guide*, which is available on the Lexmark Web site at **www.lexmark.com**.

Transparencies can be fed automatically from the multipurpose feeder and all standard and optional trays, except the 2000-sheet drawer.

Be careful when you handle transparencies. Fingerprints on the surface of the transparency cause poor print quality.

Envelopes

You can load up to 10 envelopes in the multipurpose feeder and 85 envelopes in the envelope feeder. Try a sample of any envelopes you are considering using with the printer before buying large quantities.

When printing on envelopes:

- To achieve the best possible print quality, use only high-quality envelopes that are designed for use in laser printers.
- Set the Paper Size/Type in the Paper Menu to MP Feeder, Manual Env, or Env Feeder depending on the source you are using, set the paper type to Envelope, and select the correct envelope size from the operator panel, the printer driver, in the Local Printer Setup Utility, or from MarkVision™.
- For best performance, use envelopes made from 75 g/m^2 (20 lb bond) paper. You can use up to 105 g/m^2 (28 lb bond) weight for the multipurpose feeder or 105 g/m^2 (28 lb bond) weight for the envelope feeder as long as the cotton content is 25% or less. Envelopes with 100% cotton content must not exceed 90 g/m^2 (24 lb bond) weight.
- Use only new, undamaged envelopes.

- For best performance and to minimize jams, do not use envelopes that:
  - Have excessive curl or twist.
  - Are stuck together or damaged in any way.
  - Contain windows, holes, perforations, cutouts or embossing.
  - Use metal clasps, string ties, or metal folding bars.
  - Have an interlocking design.
  - Have postage stamps attached.
  - Have any exposed adhesive when the flap is in the sealed or closed position.
  - Have nicked edges or bent corners.
  - Have rough, cockle, or laid finishes.
- Use envelopes that can withstand temperatures of 225°C (437°F) without sealing, excessive curling, wrinkling, or releasing hazardous emissions. If you have any doubts about the envelopes you are considering using, check with the envelope supplier.
- Load only one size of envelope at a time in the envelope feeder.
- A combination of high humidity (over 60%) and the high printing temperatures may seal the envelopes.

Labels

- Your printer can print on many labels designed for use with laser printers. These labels are supplied in letter size, A4 size, and legal size sheets. Label adhesives, face sheet (printable stock), and topcoats must be able to withstand temperatures of 225°C (437°F) and pressure of 25 pounds per square inch (psi).
- Try a sample of any labels you are considering using with the printer before purchasing a large quantity.
- For detailed information on label printing, characteristics, and design, refer to the *Card Stock & Label Guide* available on the Lexmark Web site at **www.lexmark.com/publications**.

Note: Labels are one of the most difficult print media for laser printers. All printer models require a special fuser cleaner for label applications to optimize feed reliability.

After printing approximately 10,000 pages of labels (or each time you replace the print cartridge), complete the following steps to maintain printer feeding reliability:

1. Print five sheets of paper.
2. Wait approximately five seconds.
3. Print five more sheets of paper.

When printing on labels:

- Set the Paper Size/Type menu item to Labels in the Paper Menu. You can set the Paper Size/Type from the printer operator panel, the printer driver, the Local Printer Setup Utility, or from MarkVision.
- Feed vinyl labels from the standard 250- or 500-sheet trays, or the optional 250- or 500-sheet drawers. For vinyl labels, you must set the Paper Type to Labels, the Labels Texture to Smooth, and the Label Weight to Heavy.
- Do not load labels with paper or transparencies in the same source; mixing print media can cause feeding problems.
- Do not use label sheets with a slick backing material.
- Use full label sheets. Partial sheets may cause labels to peel off during printing, resulting in a jam. Partial sheets also contaminate your printer and your cartridge with adhesive, and could void your printer and cartridge warranties.
- Use labels that can withstand temperatures of 225°C (437°F) without sealing, excessive curling, wrinkling, or releasing hazardous emissions.
- Do not print within 1 mm (0.04 in.) of the edge of the label, of the perforations, or between die-cuts of the label.
- Do not use label sheets that have adhesive to the edge of the sheet. We recommend zone coating of the adhesive at least 1 mm (0.04 in.) away from edges. Adhesive material contaminates your printer and could void your warranty.
- If zone coating of the adhesive is not possible, a 3 mm (0.125 in.) strip should be removed on the leading and driver edge, and a non-oozing adhesive should be used.
- Remove a 3 mm (0.125 in.) strip from the leading edge to prevent labels from peeling inside the printer.

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- Portrait orientation is preferred, especially when printing bar codes.
- Do not use labels that have exposed adhesive.

Card stock

Card stock is single ply, and has a large array of properties, such as the moisture content, thickness, and texture, that can significantly affect print quality. See **“Supported print media” on page 1-8** for information on the preferred weight and for the grain direction of print media.

Try a sample of any card stock you are considering using with the printer before purchasing a large quantity.

After printing approximately 10,000 pages of card stock (or each time you replace the print cartridge), complete the following steps to maintain printer feeding reliability:

1. Print five sheets of paper.
2. Wait approximately five seconds.
3. Print five more sheets of paper.

When printing on card stock:

- Set the Paper Type menu item in the Paper Menu to Card Stock from the operator panel, from the printer driver, in the Local Printer Setup Utility, or from MarkVision.
- Be aware that preprinting, perforation, and creasing can significantly affect the print quality and cause print media handling or jamming problems.
- Avoid using card stock that may release hazardous emissions when heated.
- Do not use preprinted card stock manufactured with chemicals that may contaminate the printer. Preprinting introduces semi-liquid and volatile components into the printer.
- We recommend the use of grain short card stock.

Storing print media

Use the following guidelines to avoid paper feeding problems and uneven print quality.

- Store paper in an environment where the temperature is approximately 21°C (70°F) and the relative humidity is 40%.
- Store cartons of paper on a pallet or shelf rather than directly on the floor.
- If you store individual packages of paper out of the original carton, make sure they rest on a flat surface so the edges do not buckle or curl.
- Do not place anything on top of paper packages.
- Store paper in its original wrapper until you load it into the printer.

Avoiding jams

Use appropriate print media (paper, transparencies, labels, and card stock) to help ensure trouble-free printing. See **“Supported print media” on page 1-8** for more information.

Note: Try a limited sample of any print media you are considering using with the printer before purchasing large quantities.

By selecting the appropriate print media and loading it properly, you can avoid most jams.

The following hints can help you avoid jams:

- Use only recommended print media.
- Do not overload the print media sources. Make sure the stack height does not exceed the maximum height indicated by the stack line on the labels in the sources.
- Do not load wrinkled, creased, damp, or curled print media.
- Flex, fan, and straighten print media before you load it. If jams do occur with print media, try feeding one sheet at a time through the multipurpose feeder.
- Do not use print media that you have cut or trimmed yourself.
- Do not mix print media sizes, weights, or types in the same print media source.
- Make sure the recommended print side is loaded in the source according to your simplex or duplex needs.
- Keep print media stored in an acceptable environment. See **“Storing print media” on page 1-18**.
- Do not remove trays during a print job.
- Push all trays in firmly after loading them.
- Make sure the guides in the trays are properly positioned for the size of print media you have loaded. Make sure the guides are not placed too tightly against the stack of print media.

Print area

The printable area is limited to within 4.2 mm (0.167 in.) of all edges of the media. Any information placed outside this specified printable area does not print.

Tools required

Flat-blade screwdrivers, various sizes
Phillips screwdrivers, various sizes
7/32 inch (5.5 mm) open-end wrench
7.0 mm nut driver
Needlenose pliers
Diagonal side cutters
Spring hook
Feeler gauges
Analog or digital multimeter
Parallel wrap plug 1319128
Twinax/serial debug cable 1381963
Flash light (optional)

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Acronyms

BLDC	Brushless DC motor
CRU	Customer Replaceable Unit
CSU	Customer setup
DIMM	Dual Inline Memory Module
DRAM	Dynamic Random Access Memory
DVM	Digital multimeter
EDO	Enhanced Data Out
EEPROM	Electrically Erasable Programable Read-Only Memory
EP	Electrophotographic process
EPROM	Erasable Programmable Read-Only Memory
ESD	Electrostatic Discharge
FRU	Field Replaceable Unit
GB	Gigabyte
HCIT	High-capacity Input Tray
HVPS	High Voltage Power Supply
ITC	Internal Tray Card
LASER	Light Amplification by Stimulated Emission of Radiation
LCD	Liquid Crystal Display
LED	Light-Emitting Diode
LVPS	Low Voltage Power Supply
MPF	Multipurpose feeder
MROM	Masked Read Only Memory
MS	Microswitch
NVRAM	Nonvolatile Random Access Memory
OEM	Original Equipment Manufacturer
OPT	Optical Sensor
PC	Photoconductor
pel	Picture element
POR	Power-On Reset
POST	Power-On Self Test
PP	Parts Packet
PWM	Pulse Width Modulation
RIP	Raster Imaging Processor
ROM	Read Only Memory
SDRAM	Synchronous Dynamic Random Access Memory
SIMM	Single Inline Memory Module
SRAM	Static Random Access Memory
UAT	Universally Adjustable Tray)
UPR	Used Parts Return
V ac	Volts alternating current
V dc	Volts direct current
VOM	Volt Ohmmeter

2. Diagnostic information

Start

CAUTION: Remove the power cord from the printer or wall outlet before you connect or disconnect any cable or electronic board or assembly for personal safety and to prevent damage to the printer. Use the handholds on the side of the printer. Make sure your fingers are not under the printer when you lift or set the printer down.

Use the service error code, user status message, user error message, symptom table, service checks, and diagnostic aids in this chapter to determine the corrective action necessary to repair a malfunctioning printer. They will lead you to solutions or service checks, including use of various tests.

Symptom tables

If your machine completes the **"Power-On Self Test (POST) sequence" on page 2-4** without an error, and you have a symptom, go to **"Symptom tables" on page 2-5**. Locate your symptom, and take the appropriate action. The following tables are available:

- **"Base printer symptoms" on page 2-5**
- **"High-capacity feeder (2000-sheet) symptoms" on page 2-5**
- **"Paper tray symptoms" on page 2-6**
- **"Duplex option symptoms" on page 2-6**
- **"Envelope feeder symptoms" on page 2-6**
- **"Output expander" on page 2-6**
- **"StapleSmart finisher" on page 2-7**

Service errors (9xx.xx's)

If a service error code appears while you are working on the machine, go to **"Service error codes" on page 2-8**, and take the indicated action for that error.

Service error codes are indicated by a three-digit error code followed by a period and additional numbers in the format XXX.YY. In most cases, five digits are shown.

User status and attendance messages

- User status messages provide the user with information on the current status of the printer. `Ready` displays on the first line of the display unless invoked, and then `Power Saver` displays. If a user status message is displayed, go to **"User status displays" on page 2-31**.
- User attendance messages are indicated by a two or three-digit error code that provides the user with information that explains a problem with a print cartridge, paper jam, option, port, and so on. If a user error message displays, go to **"User attendance messages" on page 2-32** and **"User attendance messages—paper jams and paper handling errors (2xx.xx)" on page 2-44**.

Additional information

- **"Power-On Self Test (POST) sequence" on page 2-4**
- **"Understanding the printer operator panel" on page 2-2**
- **"Understanding the menus" on page 2-3**
- **"Diagnostics mode" on page 3-2**
- **"Configuration menu (CONFIG MENU)" on page 3-25**
- **"Theory" on page 3-31**
- **"Paper feed jams" on page 3-37**
- **"Parts catalog" on page 7-1**

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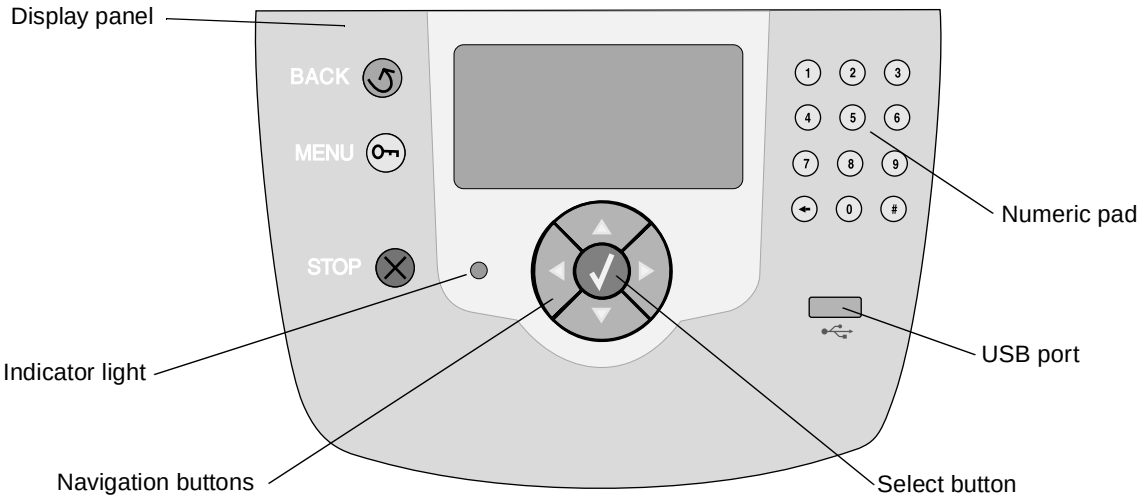
Understanding the printer operator panel

The operator panel on your printer is a 4-line back-lit gray scale display that can show both graphics and text. The **Back**, **Menu**, and **Stop** buttons are located to the left of the display, the navigation buttons are located below the display, and the numeric pad is located to the right of the display.

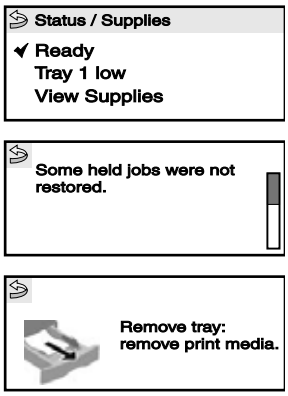


The use of the buttons and the layout of the display panel are described in the following table.

Operator panel

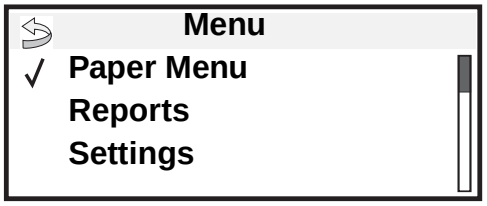
Button	Function
Back	Press the **Back** button to return to the last screen you viewed. **Note:** Changes made on the screen will not be applied if you press the **Back** button.
Menu	Press the **Menu** button to open the menu index. **Note:** The printer must be in the `Ready` state to access the menu index. A message indicating the menus are unavailable will appear if the printer is not ready.
Stop	Press **Stop** to stop the mechanical operation of the printer. After pressing **Stop**, the message `Stopping` is displayed. When the printer has stopped, the status line in the operator panel will show `Stopped`, and a list of options will appear.
Navigation buttons	The **Up** or **Down** buttons are used to move up and down lists. When navigating through a list using the **Up** or **Down** button, the cursor moves one line at a time. Pressing the **Down** button at the bottom of the screen changes the screen to the next whole page.
	The **Left** or **Right** buttons are used to move within a screen such as moving from one menu index item to another. They are also used to scroll through text that will not fit on the screen.
	The **Select** button is used to initiate action on a selection. Press Select when the cursor appears next to the selection you want such as following a link, submitting a configuration item, or when you want to start or cancel a job.

Operator panel (continued)

Button	Function
Numeric pad 1 2 3 4 5 6 7 8 9 ← 0 #	The numeric pad consists of numbers, a pound '#' sign, and a backspace button. The 5 button has a raised bump for non-visual orientation. The numbers are used to enter numeric values for items like quantities or PINs. The backspace is used to delete the number to the left of the cursor. Pressing the backspace multiple times will delete additional entries. The pound '#' sign is not used.
Display panel 	The display panel shows messages and graphics describing the current state of the printer and indicating possible printer problems you must resolve. The top line of the display is the header line. If applicable, it will contain the graphic indicating the **Back** button can be used. It will also display the current status, and the Supplies (Warnings) status. If multiple warnings are present, each warning will be separated by a comma. The other three lines of the display are the body of the screen. This is where you view printer status, supplies messages, show-me screens, and make selections.

Understanding the menus

The diagram shows the menu index on the operator panel and the menus and items available under each menu. For more information about menus and menu items, refer to the *Menus and Messages* book on your Publications CD.



Paper Menu
Default Source
Paper Size/Type
Configure MP
Envelope Enhance
Substitute Size
Paper Texture
Paper Weight
Paper Loading
Custom Types
Universal Setup
Bin Setup

Reports
Menu Settings Page
Device Statistics
Network Setup Page
Network <x> Setup Page
Profiles List
Print Quick Ref
NetWare Setup Page
Print Fonts
Print Directory

Settings
Setup Menu
Finishing Menu
Quality Menu
Utilities Menu
PDF Menu
PostScript Menu
PCL Menu
HTML Menu
Image Menu

Network/Ports
IPv6
TCP/IP
Standard Network
Network <x>
Standard USB
USB <x>
Front USB
Parallel
Parallel <x>
Serial <x>
NetWare
AppleTalk
LexLink

Security
Max Invalid PIN
Job Expiration
Encrypt Disk

Help
Print All
Print Quality
Printing Guide
Supplies Guide
Media Guide
Menu Map
Information Guide
Connection Guide
Moving Guide

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Power-On Self Test (POST) sequence

When you turn the printer on, it performs a Power-On Self Test. Check for correct POST functioning of the base printer by observing the following:

1. The LED turns comes on.
2. The operator panel turns on.
3. A partial row of pixels are displayed.
4. The operator panel display clears.
5. Another row of pixels appears.
6. The operator panel display clears again.
7. The operator panel displays system information. For example:

*128MB 449MH

8. The fuser lamp turns on. The fuser takes longer to warm up from a cold start than a warm start.
9. The operator panel LED starts blinking.
10. A clock face appears on the display.
    If present, the following errors or messages may display:
    - `Close Door` or I`nsert Cartridge` display if the upper front cover is open or the print cartridge is missing.
    - Any cartridge errors, such as `Defective Cartridge`, `Prebate Violation`, or `Missing Cartridge`.
11. `Ready` appears on the display.
12. The main fan turns on.
13. The main drive motor turns on.
14. The developer drive assembly drives the developer shaft in the toner cartridge.
15. The exit rollers turn.

Symptom tables

Base printer symptoms

Symptom	Action
Dead machine	Go to **"Dead machine service check" on page 2-80**.
Operator panel—one or more buttons do not work.	Go to **"One or more operator panel buttons fail" on page 2-106**.
Operator panel—none of the buttons work.	Go to **"No buttons work" on page 2-106**.
Operator panel—display is blank. Printer sounds 5 beeps.	Go to **"Operator panel display" on page 2-107**.
Operator panel—display is blank.	Go to **"Operator panel display" on page 2-107**
Operator panel continuously displays all diamonds and does not complete POST.	Go to **"Operator panel service check" on page 2-106**.
Paper feed problems—base printer or integrated 500-sheet paper tray	Go to **"Paper feed service check" on page 2-112**.
Paper jams at exit of redrive assembly—duplex option not installed.	Go to **"Paper feed service check" on page 2-112**.
Paper jams at exit of redrive assembly—duplex option installed.	Go to **"Duplex option service check" on page 2-82**.
Fuser solenoid fails to operate.	Go to **"Fuser solenoid service check" on page 2-94**.
Print quality—black page	Go to **"Print quality—all black page" on page 2-116**.
Print quality—blank page	Go to **"Print quality—blank page" on page 2-117**.
Print quality—light print	Go to **"Print quality—light print" on page 2-121**.
Print quality—background	Go to **"Print quality—background" on page 2-118**.
Print quality—residual image	Go to **"Print quality—residual image" on page 2-120**.
Print quality—skew	Go to **"Paper feed service check" on page 2-112**.
Print quality—banding	Go to **"Print quality—banding" on page 2-119**.
Print quality—random marks	Go to **"Print quality—random marks" on page 2-117**.
Print quality—toner on backside of printed page.	Go to **"Print quality—toner on backside of printed page" on page 2-121**.
Print quality—vertical black bands on edge of copy.	Go to **"Print quality—black bands on outer edges of the page" on page 2-120**.
Unable to clear a 32-Unsupported Print Cartridge user error message.	Go to **"Signature button assembly service check" on page 2-122**.

High-capacity feeder (2000-sheet) symptoms

Symptom	Action
The printer does not recognize the high-capacity feeder installed.	Go to **"High-capacity feeder input tray service check" on page 2-95**.
Paper feed problem with the high-capacity feeder.	Go to **"High-capacity feeder input tray service check" on page 2-95**.

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Paper tray symptoms

Symptom	Action
Paper feed problem with 250-Sheet Paper Tray.	Go to **“Input tray(s) service check” on page 2-102**.
Paper feed problem with 500-Sheet Paper Tray.	Go to **“Input tray(s) service check” on page 2-102**.
Media fails to pass through from the lower attached Paper Tray option to the next higher mounted option.	Go to **“Input tray(s) service check” on page 2-102**.

Duplex option symptoms

Symptom	Action
Paper feed problem with Duplex.	Go to **“Duplex option service check” on page 2-82**.
Paper jams at Paper Removal Tray.	Go to **“Duplex option service check” on page 2-82**.
Paper skews in the Duplex Option.	Go to **“Duplex option service check” on page 2-82**.
Paper fails to pass from lower option through the Duplex Option.	Go to **“Duplex option service check” on page 2-82**.

Envelope feeder symptoms

Symptom	Action
Envelopes do not feed from the envelope feeder.	Go to **“Envelope feeder service check” on page 2-84**.
Envelopes do not feed properly into base printer.	Go to **“Envelope feeder service check” on page 2-84**.

Output expander

Symptom	Action
Printer does not display Output Bin Full.	Go to **“Output bin sensor standard tray service check” on page 2-109.**
Paper does not feed all the way into the output tray.	Go to **“Output expander service check” on page 2-110**.

StapleSmart finisher

Symptom	Action
Finisher does not staple.	Go to **“StapleSmart finisher service check” on page 2-123**.
Printer does not recognize StapleSmart Finisher Option as being installed.	Go to **“StapleSmart finisher service check” on page 2-123**.
Close Top Cover displayed. Unable to clear or reset message (POST incomplete).	Go to **“StapleSmart finisher service check” on page 2-123**.
Close Finisher Side Cover displayed. Unable to clear or reset message (POST incomplete).	Go to **“StapleSmart finisher service check” on page 2-123**.
Paper feeds into finisher option output tray. Paper is not stapled and paper does not align with the right side.	Go to **“StapleSmart finisher service check” on page 2-123**.
Paper feeds into finisher option. Paper aligns with the right side. The stapler does not staple.	Go to **“StapleSmart finisher service check” on page 2-123**.
Paper is transported into the output tray but is not stapled.	Go to **“StapleSmart finisher service check” on page 2-123**.
Stapled sheets are not transported to the output tray.	Go to **“StapleSmart finisher service check” on page 2-123**.

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Messages and error codes

Service error codes

Service error codes are generally non-recoverable except in an intermittent condition when you can POR the printer to temporarily recover from the error condition.

Service error codes (9*xx.xx*)

Error code	Sub codes	Display text	Description	Action
900	.xx	RIP Software		Go to **"900.xx Error code service check" on page 2-75**.
901	.xx	Engine flash error	Indicates that the flash which the system board code is programmed into is bad. Replace the system board.	Replace the system board. See**"System board and inner shield removal" on page 4-76**.
902	.xx	Engine software error	These errors indicate an unrecoverable system software error.	Replace the system board. See **"System board and inner shield removal" on page 4-76**.
903	.xx	Paperport link driver error	These errors indicate an unrecoverable system software error.	Replace the system board. See **"System board and inner shield removal" on page 4-76**.
904	.xx	Interface violation by RIP	These errors indicate an unrecoverable system software error.	Replace the system board. See **"System board and inner shield removal" on page 4-76**.
905	.xx	Interface violation by Paperport device	These errors indicate an unrecoverable system software error.	Replace the system board. See **"System board and inner shield removal" on page 4-76**.
906	.xx	RIP interface driver error	These errors indicate an unrecoverable system software error.	Replace the system board. See **"System board and inner shield removal" on page 4-76**.
910	.xx	DC pick motor acceleration stall (autocompensator motor).	• Check autocompensator cable connectors • Check autocompensator for binds	Go to **"Paper feed service check" on page 2-112**.
911	.00	DC pick motor excessive PWM	• Check system board • Check autocompensator motor	Go to **"Paper feed service check" on page 2-112**.
912	.00	DC pick motor underspeed error	• Check system board • Check autocompensator	Go to **"Paper feed service check" on page 2-112**.
913	.00	DC pick motor overspeed error	• Check system board • Check autocompensator	Go to **"Paper feed service check" on page 2-112**.
914	.00	DC pick motor no encoder feedback	Check autocompensator assembly	Go to **"Paper feed service check" on page 2-112**.
917	.00	Problem with transfer—transfer servo start error.	• Check HVPS • Check system board • Check HVPS/input sensor/toner sensor cable.	Go to **"Transfer roll service check" on page 2-128**.

Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
920	.01	Hot roll took too long to heat up after transitioning to new enhanced mode (standby control only. Fuser page count between 0 and 99,999.	• Bad thermistor, circuit or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage. • Low wattage or incorrect lamp. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.02	Hot roll fell too far below the desired temperature while in standby. Fuser page between 0 and 99,999.	• Bad thermistor, circuit or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage. • Low wattage or incorrect lamp. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.03	Hot roll too cool when checking for slope change in standby. Fuser page count between 0 and 99,999.	• Bad thermistor, circuit or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage. • Low wattage or incorrect lamp. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.04	Hot roll too cool when heating to desired temperature after slope change (standby control only). Fuser page count between 0 and 99,999.	• Bad thermistor, circuit or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage. • Low wattage or incorrect lamp. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.06	Fuser is not increasing in temperature even though the lamp has been on for an extended time. Fuser page count between 0 and 99,999.	• Fuser is not receiving AC power. • Poor supply line voltage.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920.	.07	Fuser has been below the desired temperature for too long while media is in the nip. Fuser page count between 0 and 99,999.	• Bad thermistor, circuit, or cabling. • Very noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Excessive load on the fuser. • Low voltage or incorrect lamp. • Abrupt change in temperature that has disrupted control. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.11	Hot roll took too long to heat up after transitioning to new enhanced mode. Fuser page count between 100,000 and 199,999.	• Bad thermistor, circuit, or cabling. • Very noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.

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Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
920	.12	Hot roll fell too far below the desired temperature while printing. Fuser page count between 100,000 and 199,999.	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.13	Hot roll too cool while checking for slope change. Fuser page count between 100,000 and 199,999.	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.14	Hot roll too cool when heating to desired temperature after slope change. Fuser page count between 100,000 and 199,999.	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.16	Fuser is not increasing in temperature even though the lamp has been on for an extended time. Fuser page count between 100,000 and 199,999.	• Fuser is not receiving AC power. • Poor supply line voltage.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.17	Fuser has been below the desired temperature for too long while the media is in the nip. Fuser page count between 100,000 and 199,999.	• Bad thermistor, circuit, or cabling. • Very noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Excessive load on the fuser. • Low voltage or incorrect lamp. • Incorrect hot roll. • Abrupt change in temperature that has disrupted control.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.21	Hot roll took too long to heat up after transitioning to new enhanced mode. Fuser page count between 200,000 and 299,999.	• Bad thermistor, circuit, or cabling. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.

Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
920	.22	Hot roll fell too far below the desired temperature while printing. Fuser page count between 200,000 and 299,999.	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **“920.xx—Cold fuser service check” on page 2-87**.
920	.23	Hot roll too cool while checking for slope change. Fuser page count between 200,000 and 299,999.	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **“920.xx—Cold fuser service check” on page 2-87**.
920	.24	Hot roll too cool when heating to desired temperature after slope change. Fuser page count between 200,000 and 299,999.	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **“920.xx—Cold fuser service check” on page 2-87**.
920	.26	Fuser is not increasing in temperature even though the lamp has been on for an extended tim. Fuser page count between 200,000 and 299,999.	• Fuser is not receiving AC power. • Poor supply line voltage.	Go to **“920.xx—Cold fuser service check” on page 2-87**.
920	.27	Fuser has been below the desired temperature for too long while media is in the nip. Fuser page count between 200,000 and 299,999.	• Bad thermistor, circuit, or cabling. • Very noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Excessive load on the fuser. • Low voltage or incorrect lamp. • Incorrect hot roll. • Abrupt change in temperature that has disrupted control.	Go to **“920.xx—Cold fuser service check” on page 2-87**.
920	.31	Under temperature during steady state control. Fuser page count between 300,000 and 399,999.	• Bad thermistor, circuit, or cabling. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **“920.xx—Cold fuser service check” on page 2-87**.

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Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
920	.32	Hot roll fell too far below desired temperature while printing. Fuser page count between 300,000 and 399,999.	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.33	Hot roll too cool while checking for slope change. Fuser page count between 300,000 and 399,999.	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.34	Hot roll too cool when heating to desired temperature after slope change. Fuser page count between 300,000 and 399,999.	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.36	Fuser is not increasing in temperature even though the lamp has been on for an extended time. Fuser page count between 300,000 and 399,999.	• Fuser is not receiving AC power. • Poor supply line voltage.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.37	Fuser has been below the desired temperature for too long while media is in the nip. Fuser page count between 300,000 and 399,999.	• Bad thermistor, circuit, or cabling. • Very noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Excessive load on the fuser. • Low voltage or incorrect lamp. • Incorrect hot roll. • Abrupt change in temperatures that has disrupted control.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.41	Hot roll took too long to heat up after transitioning to new enhanced mode. Fuser page count between 400,000 and 499,999.	• Bad thermistor, circuit, or cabling. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.

Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
920	.42	Hot roll fell too far below the desired temperature while printing. Fuser page count between 400,000 and 499,999.	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **“920.xx—Cold fuser service check” on page 2-87**.
920	.43	Hot roll too cool while chickens for slope change. Fuser page count between 400,000 and 499,999.	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **“920.xx—Cold fuser service check” on page 2-87**.
920	.44	Hot roll too cool when heating to desired temperature after slop change. Fuser page count between 400,000 and 499,999	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **“920.xx—Cold fuser service check” on page 2-87**.
920	.46	Fuser is not increasing in temperature even though the lamp has been on for an extended time. Fuser page count between 400,000 and 499,999.	• Fuser is not receiving AC power. • Poor supply line voltage.	Go to **“920.xx—Cold fuser service check” on page 2-87**.
920	.47	Fuser has been below the desired temperature for too long while media is in the nip. Fuser page count between 400,000 and 499,999.	• Bad thermistor, circuit, or cabling. • Very noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Excessive load on the fuser. • Low voltage or incorrect lamp. • Incorrect hot roll. • Abrupt change in temperatures that has disrupted control.	Go to **“920.xx—Cold fuser service check” on page 2-87**.
920	.51	Hot roll took too long to heat up after transitioning to new enhanced mode. Fuser page count more than 500,000.	• Bad thermistor, circuit, or cabling. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **“920.xx—Cold fuser service check” on page 2-87**.

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Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
92	.52	Hot roll fell too far below desired temperature while printing. Fuser page count more than 500,000.	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.53	Hot roll too cool while checking for slope change. Fuser page count more than 500,000.	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.54	Hot roll too cool when heating to desired temperature after slope change. Fuser page count more than 500,000.	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.56	Fuser is not increasing in temperature even though the lamp has been on for an extended time. Fuser count more than 500,000.	• Fuser is not receiving AC power. • Poor supply line voltage.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.57	Fuser has been below the desired temperature for too long while media is in the nip. Fuser page count more than 500,000.	• Bad thermistor, circuit, or cabling. • Very noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Excessive load on the fuser. • Low voltage or incorrect lamp. • Incorrect hot roll. • Abrupt change in temperatures that has disrupted control.	Go to **"920.xx—Cold fuser service check" on page 2-87**.
920	.91	Hot roll took too long to heat up after transitioning to new enhanced mode. Fuser page count not available.	• Bad thermistor, circuit, or cabling. • Fuser not receiving AC power. • Poor supply line voltage. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **"920.xx—Cold fuser service check" on page 2-87**.

Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
920	.92	Hot roll fell too far below desired temperature while printing. Fuser page count not available.	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Excessive load on the fuser. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **“920.xx—Cold fuser service check” on page 2-87**.
920	.93	Hot roll too cool while checking for slope change. Fuser page count not available.	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Excessive load on the fuser. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **“920.xx—Cold fuser service check” on page 2-87**.
920	.94	Hot roll too cool when heating to desired temperature after slope change. Fuser page count not available.	• Bad thermistor, circuit, or cabling. • Noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Excessive load on the fuser. • Low voltage or incorrect lamp. • Incorrect hot roll.	Go to **“920.xx—Cold fuser service check” on page 2-87**.
920	.96	Fuser is not increasing in temperature even though the lamp has been on for an extended time. Fuser page count not available.	• Fuser is not receiving AC power. • Poor supply line voltage.	Go to **“920.xx—Cold fuser service check” on page 2-87**.
920	.97	Fuser has been below the desired temperature for too long while media is in the nip. Fuser page count not available.	• Bad thermistor, circuit, or cabling. • Very noisy thermistor signal. • Fuser not receiving AC power. • Poor supply line voltage. • Excessive load on the fuser. • Low voltage or incorrect lamp. • Abrupt change in temperatures that has disrupted control.	Go to **“920.xx—Cold fuser service check” on page 2-87**.
922	.02	Hot roll took too long to reach the beginning lamp detection temperature. Fuser page count between 0 and 99,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **“922.xx—Cold fuser check” on page 2-89**.

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Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
922	.03	Hot roll reached final lamp detection temperature but took longer than largest time in lookup table. Fuser page count between 0 and 99,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.04	Hot roll timed out in trying to reach the final lamp detection temperature. Fuser page count between 0 and 99,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.06	Hot roll did not reach operating temperature in time (new enhanced control). Fuser page count between 0 and 99,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.07	Fuser has taken too long to reach desired temperature after increasing interrupt gap. Fuser page count between 0 and 99,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.12	Hot roll took too long to reach the beginning lamp detection temperature. Fuser page count between 100,000 and 199,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.13	Hot roll reached final lamp detection temperature but took longer than largest time in lookup table. Fuser page count between 100,000 and 199,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.14	Hot roll timed out in trying to reach the final lamp detection temperature. Fuser page count between 100,000 and 199,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.15	After hot roll lamp detection, did not roll over to steady state control in time. Fuser page count between 100,000 and 199,999.	The control code has been lost.	Go to **"922.xx—Cold fuser check" on page 2-89**.

Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
922	.16	Hot roll did not reach operating temperature in time (new enhanced control). Fuser page count between 100,000 and 199,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.17	Fuser has taken too long to reach desired temperature after increasing interpage gap. Fuser page count between 100,000 and 199,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.22	Hot roll took too long to reach the beginning lamp detection temperature. Fuser page count between 200,000 and 299,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.23	Hot roll reached final lamp detection temperature but took longer than largest time in lookup table. Fuser page count between 200,000 and 299,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.24	Hot roll timed out in trying to reach the final lamp detection temperature. Fuser page count between 200,000 and 299,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.25	After hot roll lamp detection, did not roll over to steady state control in time. Fuser page count between 200,000 and 299,999.	The control code has been lost.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.26	Hot roll did not reach operating temperature in time (new enhanced control). Fuser page count between 200,000 and 299,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.27	Fuser has taken too long to reach desired temperature after increasing interpage gap. Fuser page count between 200,000 and 299,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.

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Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
922	.32	Hot roll took too long to reach the beginning lamp detection temperature. Fuser page count between 300,000 and 399,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.33	Hot roll reached final lamp detection temperature but took longer than largest time in lookup table. Fuser page count between 300,000 and 399,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.34	Hot roll timed out in trying to reach the final lamp detection temperature. Fuser page count between 300,000 and 399,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.35	After hot roll lamp detection, did not roll over to steady state control in time. Fuser page count between 300,000 and 399,999.	The control code has been lost.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.36	Hot roll did not reach operating temperature in time (new enhanced control). Fuser page count between 300,000 and 399,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.37	Fuser has taken too long to reach desired temperature after increasing interpage gap. Fuser page count between 300,000 and 399,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.42	Hot roll took too long to reach the beginning lamp detection temperature. Fuser page count between 400,000 and 499,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.43	Hot roll reached final lamp detection temperature but took longer than largest time in lookup table. Fuser page count between 400,000 and 499,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.

Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
922	.44	Hot roll timed out in trying to reach the final lamp detection temperature. Fuser page count between 400,000 and 499,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.45	After hot roll lamp detection, did not roll over to steady state control in time. Fuser page count between 400,000 and 499,999.	The control code has been lost.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.46	Hot roll did not reach operating temperature in time (new enhanced control). Fuser page count between 400,000 and 499,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.47	Fuser has taken too long to reach desired temperature after increasing interpage gap. Fuser page count between 400,000 and 499,999.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Excessive load on the fuser. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.52	Hot roll took too long to reach the beginning lamp detection temperature. Fuser page count stopped at 500,000 to preserve data.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.53	Hot roll reached final lamp detection temperature but took longer than largest time in lookup table. Fuser page count stopped at 500,000 to preserve data.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.54	Hot roll timed out in trying to reach the final lamp detection temperature. Fuser page count stopped at 500,000 to preserve data.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.55	After hot roll lamp detection, did not roll over to steady state control in time. Fuser page count stopped at 500,000 to preserve data.	The control code has been lost.	Go to **"922.xx—Cold fuser check" on page 2-89**.

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Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
922	.56	Hot roll did not reach operating temperature in time (new enhanced control). Fuser page count stopped at 500,000 to preserve data.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.57	Fuser has taken too long to reach desired temperature after increasing interpage gap. Fuser page count stopped at 500,000 to preserve data.	• Low wattage or incorrect lamp. • Excessive load on the fuser. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.92	Hot roll took too long to reach the beginning lamp detection temperature. Fuser page count not available.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.93	Hot roll reached 'final lamp detection temperature' but took longer than largest time in lookup table. Fuser page count not available.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.94	Hot roll timed out in trying to reach the final lamp detection temperature. Fuser page count not available.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.95	After hot roll lamp detection, did not roll over to steady state control in time. Fuser page count not available.	Control code has been lost.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.96	Hot roll did not reach operating temperature in time (new enhanced control). Fuser page count not available.	• Low wattage or incorrect lamp. • Bad thermistor, circuit, or cabling. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.
922	.97	Fuser has taken too long to reach desired temperature after increasing interpage gap. Fuser page count not available.	• Low wattage or incorrect lamp. • Excessive load on the fuser. • Fuser not receiving sufficient AC power. • Poor supply line voltage.	Go to **"922.xx—Cold fuser check" on page 2-89**.

Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
923	.01	Fuser over temperature. Fuser page count between 0 and 99,999.	• Short in the thermistor circuit. • Noisy thermistor signal • Fuser is actually overheating due to hardware faults.	Go to **"923.xx—Hot fuser service check" on page 2-90**.
923	.11	Fuser over temperature. Fuser page count between 100,000 and 199,999.	• Short in the thermistor circuit. • Noisy thermistor signal • Fuser is actually overheating due to hardware faults.	Go to **"923.xx—Hot fuser service check" on page 2-90**.
923	.21	Fuser over temperature. Fuser page count between 200,000 and 299,999.	• Short in the thermistor circuit. • Noisy thermistor signal • Fuser is actually overheating due to hardware faults.	Go to **"923.xx—Hot fuser service check" on page 2-90**.
923	.31	Fuser over temperature. Fuser page count between 300,000 and 399,999.	• Short in the thermistor circuit. • Noisy thermistor signal • Fuser is actually overheating due to hardware faults.	Go to **"923.xx—Hot fuser service check" on page 2-90**.
923	.41	Fuser over temperature. Fuser page count between 400,000 and 499,999.	• Short in the thermistor circuit. • Noisy thermistor signal • Fuser is actually overheating due to hardware faults.	Go to **"923.xx—Hot fuser service check" on page 2-90**.
923	.51	Fuser over temperature. Fuser page count stopped at 500,000 to preserve data.	• Short in the thermistor circuit. • Noisy thermistor signal • Fuser is actually overheating due to hardware faults.	Go to **"923.xx—Hot fuser service check" on page 2-90**.
923	.91	Fuser over temperature. Fuser page count not available.	• Short in the thermistor circuit. • Noisy thermistor signal • Fuser is actually overheating due to hardware faults.	Go to **"923.xx—Hot fuser service check" on page 2-90**.
924	.01	Open thermistor check failure. Fuser page count between 0 and 99,999.	• Noisy thermistor signal. • Intermittent connection. • Thermistor cable not connected or thermistor actually open.	Go to **"924.xx—Hot fuser service check" on page 2-91**.
924	.11	Open thermistor check failure. Fuser page count between 100,000 and 199,999.	• Noisy thermistor signal. • Intermittent connection. • Thermistor cable not connected or thermistor actually open.	Go to **"924.xx—Hot fuser service check" on page 2-91**.
924	.21	Open thermistor check failure. Fuser page count between 200,000 and 299,999.	• Noisy thermistor signal. • Intermittent connection. • Thermistor cable not connected or thermistor actually open.	Go to **"924.xx—Hot fuser service check" on page 2-91**.
924	.31	Open thermistor check failure. Fuser page count between 300,000 and 399,999.	• Noisy thermistor signal. • Intermittent connection. • Thermistor cable not connected or thermistor actually open.	Go to **"924.xx—Hot fuser service check" on page 2-91**.

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Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
924	.41	Open thermistor check failure. Fuser page count between 400,000 and 499,999.	• Noisy thermistor signal. • Intermittent connection. • Thermistor cable not connected or thermistor actually open.	Go to **"924.xx—Hot fuser service check" on page 2-91**.
924	.51	Open thermistor check failure. Fuser page count over 500,000.	• Noisy thermistor signal. • Intermittent connection. • Thermistor cable not connected or thermistor actually open.	Go to **"924.xx—Hot fuser service check" on page 2-91**.
924	.91	Open thermistor check failure. Fuser page count not available.	• Noisy thermistor signal. • Intermittent connection. • Thermistor cable not connected or thermistor actually open.	Go to **"924.xx—Hot fuser service check" on page 2-91**.
925	.01	Lamp detection performed and found error. Fuser page count between 0 and 99,999.	• 115 V lamp in 220 V printer. • Lamp has excessive wattage.	Go to **"925.xx—Hot fuser service check" on page 2-91**.
925	.02	Too hot to do lamp detection and NVRAM bit indicates previous wrong lamp detected. Fuser page count between 0 and 99,999.	Attempting to POR machine after receiving a 925.01.	Go to **"925.xx—Hot fuser service check" on page 2-91**.
925	.11	Lamp detection performed and found error. Fuser page count between 100,000 and 199,999.	• 115 V lamp in 220 V printer. • Lamp has excessive wattage.	Go to **"925.xx—Hot fuser service check" on page 2-91**.
925	.12	Too hot to do lamp detection and NVRAM bit indicates previous wrong lamp detected. Fuser page count between 100,000 and 199,999.	Attempting to POR machine after receiving a 925.01.	Go to **"925.xx—Hot fuser service check" on page 2-91**.
925	.21	Lamp detection performed and found error. Fuser page count between 200,000 and 299,999.	• 115 V lamp in 220 V printer. • Lamp has excessive wattage.	Go to **"925.xx—Hot fuser service check" on page 2-91**.
925	.22	Too hot to do lamp detection and NVRAM bit indicates previous wrong lamp detected. Fuser page count between 200,000 and 299,999.	Attempting to POR machine after receiving a 925.01.	Go to **"925.xx—Hot fuser service check" on page 2-91**.
925	.31	Lamp detection performed and found error. Fuser page count between 300,000 and 399,999.	• 115 V lamp in 220 V printer. • Lamp has excessive wattage.	Go to **"925.xx—Hot fuser service check" on page 2-91**.

Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
925	.32	Too hot to do lamp detection and NVRAM bit indicates previous wrong lamp detected. Fuser page count between 300,000 and 399,999.	Attempting to POR machine after receiving a 925.01.	Go to **"925.xx—Hot fuser service check" on page 2-91**.
925	.41	Lamp detection performed and found error. Fuser page count between 400,000 and 499,999.	• 115 V lamp in 220 V printer. • Lamp has excessive wattage.	Go to **"925.xx—Hot fuser service check" on page 2-91**.
925	.42	Too hot to do lamp detection and NVRAM bit indicates previous wrong lamp detected. Fuser page count between 400,000 and 499,999.	Attempting to POR machine after receiving a 925.01.	Go to **"925.xx—Hot fuser service check" on page 2-91**.
925	.51	Lamp detection performed and found error. Fuser page count stopped at 500,000 to preserve data.	• 115 V lamp in 220 V printer. • Lamp has excessive wattage.	Go to **"925.xx—Hot fuser service check" on page 2-91**.
925	.52	Too hot to do lamp detection and NVRAM bit indicates previous wrong lamp detected. Fuser page count stopped at 500,000 to preserve data.	Attempting to POR machine after receiving a 925.01.	Go to **"925.xx—Hot fuser service check" on page 2-91**.
925	.91	Lamp detection performed and found error. Writes to the fuser information chip have been disabled due to a previous write failure.	• 115 V lamp in 220 V printer. • Lamp has excessive wattage.	Go to **"925.xx—Hot fuser service check" on page 2-91**.
925	.92	Too hot to do lamp detection and NVRAM bit indicates previous wrong lamp detected. Writes to the fuser information chip have been disabled due to a previous write failure.	Attempting to POR machine after receiving a 925.01.	Go to **"925.xx—Hot fuser service check" on page 2-91**.
927	.00	Service fan error.	• Loose connector. • External blockage of the fan, preventing it from turning. • Bad fan.	Go to **"Main fan" on page 2-76**.
927	.01	Main fan stalled.	• External blockage of fan • Fan may not turn due to internal fan problem.	Go to **"Main fan" on page 2-76**.

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Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
927	.02	Cartridge fan stalled.	• Loose connector. • External blockage of the fan, preventing it from turning. • Bad fan.	Go to **“Cartridge fan service check” on page 2-76**.
927	.03	Main fan took too long to ramp up.	• Loose connector. • External blockage of the fan, preventing it from turning. • Bad fan.	Go to **“Main fan” on page 2-76**.
927	.04	Main fan underspeed or stalled during speed adjustment state.	• Corrupted feedback signal. • Fan input voltage may be too low.	Go to **“Main fan” on page 2-76**.
927	.05	Main fan overspeed during speed adjustment state.	• Corrupted feedback signal. • Fan input voltage may be too low.	Go to **“Main fan” on page 2-76**.
927	.06	Main fan capture data is invalid and speed control is at maximum in fan control idle state.	Corrupted or non-existent feedback signal.	Go to **“Main fan” on page 2-76**.
927	.07	Main fan capture data is invalid and speed control is at maximum in fan control adjustment state.	Corrupted feedback signal.	Go to **“Main fan” on page 2-76**.
929	.00	Toner sensor error—a problem has been detected with the toner sensor.	• Check the toner sensor • Check cable • Check system board	Go to **“Toner sensor service check” on page 2-127**.
929	.66	An error has been detected. No home windows has been detected.	• Check toner cartridge. • Check toner sensor	Go to **“Toner sensor service check” on page 2-127**.
929	.67	No toner sensor transition.	• Check toner sensor • Check toner cartridge	Go to **“Toner sensor service check” on page 2-127**.
930	.00	An incorrect printhead has been detected	Check the printhead	Go to **“Printhead service check” on page 2-122**.
932	.00	Printhead lost HSYNC.	• Check printhead • Check cables and connections • Check system board	Go to **“Printhead service check” on page 2-122**.
933	.00	Mirror motor locked, no first HSYNC received.	• Check printhead • Check cables and connectors • Check system board.	Go to **“Printhead service check” on page 2-122**.
934	.00	Mirror motor lost lock	• Check printhead • Check cables and connections • Check system board	Go to **“Printhead service check” on page 2-122**.

Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
936	.00	Mirror moor not up to speed	• Check printhead • Check system board	Go to **"Printhead service check" on page 2-122**.
936	.10	No hall effect detected at motor start. Motor is type 0.	• Check cable connections • Defective motor • Severe gear blinds in gearbox assembly • System board	Go to **"Main drive service check" on page 2-105**.
936	.11	No hall effect detected at motor start. Motor is type 1.	• Check cable connections • Defective motor • Severe gear binds in gearbox assembly. • System board	Go to **"Main drive service check" on page 2-105**.
936	.20	Failed to stop within timeout, motor is type 0.	• Defective motor • Defective system board	Go to **"Main drive service check" on page 2-105**.
936	.21	Failed to stop within timeout, motor is type 1.	• Defective motor • Defective system board	Go to **"Main drive service check" on page 2-105**.
936	.30	No lock detected at motor start for motor ID. Motor is type 0.	• Check for paper jams • Gear binds • Defective motor • Check motor cable and connections	Go to **"Main drive service check" on page 2-105**.
936	.31	No lock detected at motor start for motor ID. Motor is type 1.	• Check for paper jams • Gear binds • Defective motor • Check motor cable and connections	Go to **"Main drive service check" on page 2-105**.
936	.60	No lock detected at normal motor start. Motor is type 0.	• Check for paper jams • Gear binds • Defective motor • Check motor cable and connections	Go to **"Main drive service check" on page 2-105**.
936	.61	No lock detected at normal motor start. Motor is type 1.	• Check for paper jams • Gear binds • Defective motor. • Defective motor cable • Cable connections	Go to **"Main drive service check" on page 2-105**.
936	.9	Stall detected during speed control. Motor is type 0.	• Defective cable • Check cable connections • Defective motor • Paper jams	Go to **"Main drive service check" on page 2-105**.
936	.91	Stall detected during speed control. Motor is type 1.	• Defective cable • Check cable connections • Defective motor • Paper jams	Go to **"Main drive service check" on page 2-105**.

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Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
937	.4	Overspeed detected during speed control. Motor is type 0.	• Faulty motor sensor • Faulty system board	Go to **“Main drive service check” on page 2-105**.
937	.41	Overspeed detected during speed control. Motor is type 1.	• Faulty motor sensor • Faulty system board	Go to **“Main drive service check” on page 2-105**.
937	.5	Overspeed detected during position control. Motor is type 0.	• Faulty motor sensor • Faulty system board	Go to **“Main drive service check” on page 2-105**.
937	.51	Overspeed detected during position control. Motor is type 1.	• Faulty motor sensor • Faulty system board	Go to **“Main drive service check” on page 2-105**.
937	.7	Loss of lock detected by higher level code. Motor is type 0.	• Defective motor cable • Defective main drive motor • Paper jams	Go to **“Main drive service check” on page 2-105**.
937	.71	Loss of lock detected by higher level code. Motor is type 1.	• Defective motor cable • Defective main drive motor • Paper jams	Go to **“Main drive service check” on page 2-105**.
937	.80	Driver over temperature detection. Motor is type 0.	• Excessive gear loading in gearbox assembly	Go to**“Main drive service check” on page 2-105**.
939	.00	RIP–engine communications lost.	System board	POR the printer several times, if the error code continues to be displayed, replace the system board. See **“System board and inner shield removal” on page 4-76**.
940	.00	LVPS zero-crossing test failed. 	• Incorrect LVPS installed • Noisy AC power source • LVPS to system board cable loose	Check to make sure the correct LVPS assembly has been installed. If the correct supply is installed, check to make sure the LVPS to system board cable is installed correctly. If correct, replace the LVPS assembly. See **“Low voltage power supply removal” on page 4-54**.
947	.00	PQET RAM test incomplete, PQET RAM test did not complete, PQET RAM test failed MARCH0 PQET RAM test failed MARCH1 PQET RAM test busy failure	PQET failed to pass RAM tests on the system board	Replace the system board. See **“System board and inner shield removal” on page 4-76**.
948	.00	Pel clock check failed	System board	Replace the system board. See **“System board and inner shield removal” on page 4-76**.

Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
949	.00	Delay line calibration failure	System board	Replace the system board. See **“System board and inner shield removal” on page 4-76**.
950	.00	NVRAM mismatch		Go to **“950.00 through 950.29 EPROM mismatch failure” on page 2-77**. or go to **“950.30 through 950.60 EPROM mismatch failure” on page 2-78**.
951	.00			Replace the system board. See **“System board and inner shield removal” on page 4-76**. **Warning:** When replacing any one of the following components: • Operator panel assembly (or upper front cover) • System board assembly • Interconnect card assembly Only replace one component at a time. Replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable. **Warning:** Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a printer, it can not be used in another printer. It must be returned to the manufacturer.
952	.00	NV failure:n	CRC error has occurred. This is recoverable.	Perform POR to clear the error.

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Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
953	.00			Replace the operator panel board or upper front cover. See **“Upper front cover removal” on page 4-11** or **“Upper front cover removal” on page 4-11**. **Warning:** When replacing any one of the following components: • Operator panel assembly (or upper front cover) • System board assembly • Interconnect card assembly Only replace one component at a time. Replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable. **Warning:** Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a printer, it can not be used in another printer. It must be returned to the manufacturer.

Service error codes (9*xx.xx*) (continued)

Error code	Sub codes	Display text	Description	Action
954	.00			Replace the interconnect card. See **“Interconnect card assembly removal” on page 4-53**. **Warning:** When replacing any one of the following components: • Operator panel assembly (or upper front cover) • System board assembly • Interconnect card assembly Only replace one component at a time. Replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable. **Warning:** Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a printer, it can not be used in another printer. It must be returned to the manufacturer.
955	.00	Code CRC	CRC failure or ECC code failure on the system board.	Replace the system board. See **“System board and inner shield removal” on page 4-76**.
956	.00	System board	This error indicates a system board processor failure.	Replace the system board. See **“System board and inner shield removal” on page 4-76**.
957	.00	System board	This error indicates a system board processor failure.	Replace the system board. See **“System board and inner shield removal” on page 4-76**.
958	.00	Nand failure	Printer has performed more than 100 “shift and replace” operations as a result of EC bit corrections.	Replace the system board. See **“System board and inner shield removal” on page 4-76**.

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Service error codes (9*xx*.*xx*) (continued)

Error code	Sub codes	Display text	Description	Action
980	.00	Unreliable comma to Paperport device	The engine is experiencing unreliable communications to the specified device.	Service errors 980 thru 984 <*device*> can be one of the following: system board, duplex, tray *x* (1, 2, 3, 4, or 5), envelope feeder or output bin.
981	.00	Interface protocol violation by engine	The engine protocol violation detected by the specified device.	
982	.xx	Paperport communication error	Communications error detected by the specified device.	
983	.00	Invalid command received by device	Invalid command received by the specified device.	
984	.00	Invalid command parameter received by device	Invalid command parameter received by the specified device.	
990	.00	General device equipment check	Indicates an equipment check condition has occurred in the specified device, but the device is unable to identify the exact component failure.	Service errors 980 thru 984 <*device*> can be one of the following: system board, duplex, tray *x* (1, 2, 3, 4, or 5), envelope feeder or output bin.
991	.00	Device system card failed basic assurance test	The specified device has detected an equipment check in its system card.	

User status displays

Warning messages (second lines)

These second line warnings apply to the user status displays (see **"User status displays" on page 2-31**). For example,

Ready <*warning*>

If none of the conditions exist that are listed in the following table, line two is blank. If any of the messages in the table are displayed, the following actions can be taken:

- Press Menu to take the printer offline and access the Ready Menu group. The Menu buttons are not active if Menu Lockout is turned on.
- Press Stop to take the printer offline. The `Not Ready` message displays. No additional data is processed from the host computer. Press Go to return the printer to the Ready state.

User status displays

Error code	Sub code	Display text	Description/action
		Toner Low	If the toner cartridge is low, then `Toner Low` displays. The Toner Low condition clears whenever the upper front door is opened, and Toner Low displays again if the condition exists after the upper front door is closed.
		Tray *x* Missing	If any of the input trays equipped with tray present sensing are missing, then `Tray x Missing` displays (where *x* designates which tray (1 through 5) is missing. If multiple trays are missing, they are prioritized in this order: Tray 1, 2..., then Tray 5. Tray x Missing status clears whenever Tray *x* is reinserted. If the Tray 1 Missing message does not clear when tray 1 is inserted, go to **"Parallel port service check" on page 2-116**. If Tray 2 through 5 Missing message does not clear by inserting the tray, go to **"Input tray(s) service check" on page 2-102**.
		Tray *x* Empty	If any of the input trays are empty, then `Tray x Empty` displays, where *x* designates which tray (Tray 1 through 5) is empty. If multiple trays are empty, then they are prioritized in this order: Tray 5, Tray 4,...Tray 1. **Note:** `Tray x Empty` status clears whenever Tray *x* is removed. When Tray *x* is reinserted, it is examined and the appropriate status, if any, displays. Empty status is not displayed for the Envelope Feeder or Multipurpose Feeder.
		Tray *x* Low	If any of the input trays are low, then `Tray x Low` displays, where *x* designates which tray (1 through 5) is low. If multiple trays are low, they are prioritized in the following order: Tray 5, 4, 3, 2, and 1. **Note:** Tray *x* Low clears whenever tray *x* is empty, or tray *x* is removed. When tray *x* is reinserted, it is examined and the appropriate status, if any, displays. The printer cannot detect when the envelope feeder or multipurpose feeder are low.

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User attendance messages

User attendance messages

Error code	Sub code	Primary message	Description/action
		Change Cartridge Invalid Refill	Select one of the following actions: • Remove the toner cartridge and install a new cartridge. • Press and hold ✓ and press ↺ to display debug data for the engine and cartridge code. **Note:** This message may help diagnose a potential printer problem.
		Change <*input source*> <*Custom Type name*>	This message displays when the user should change the media installed in one of the input options. • <*input source*>=Tray 1, Tray 2, Tray 3, Tray 4, Tray 5, MPF Feeder, Envelope Feeder. • <*Custom Type name*>=Custom 1 through Custom 6 using the MarkVision™ utility. When the printer is prompting for one of the custom types which has been named by the user, then only the custom type name is displayed on line 2. The name may be truncated to fit the display.
		Change <*input source*> <*custom string*>	This message displays when the user should change the media installed in one of the input options. • <*input source*>=Tray 1, Tray 2, Tray 3, Tray 4, Tray 5, MPF Feeder, Envelope Feeder. • <*custom string*>= a user definable name.
		Change <*input source*> <*size*>	This message displays when the user should change the media installed in one of the input options: • <*input source*>=Tray 1, Tray 2, Tray 3, Tray 4, Tray 5, MPF Feeder, Envelope Feeder. • <*size*>=letter, legal, B5, A4, Executive, Universal, A5, B4, A3, 11x17, Folio, or Statement. For envelopes, <*size*>=7¾ Envelope, 9 Envelope, 10 Envelope, DL Envelope, C5 Envelope, B5 Envelope, or other Envelope.
		Change <*input source*> <*type*><*size*>	This message displays when the user should change the media installed in one of the input options. • <*input source*>=Tray 1, Tray 2, Tray 3, Tray 4, Tray 5, MPF Feeder, Envelope Feeder. • <*type*>=Bond, Card stock, Colored, Envelope, Labels, Ltrhead, Plain, Preprint, or Transparency. • <*size*>=letter, legal, B5, A4, Executive, Universal, A5, B4, A3, 11x17, Folio, or Statement. For envelopes, <*size*>=7¾ Envelope, 9 Envelope, 10 Envelope, DL Envelope, C5 Envelope, B5 Envelope, or other Envelope.

User attendance messages (continued)

Error code	Sub code	Primary message	Description/action
		Check Duplex Connection	This messages displays for the following conditions: • The duplex option may have been removed from the printer, possibly to clear a paper jam or to remove the option. • The duplex option may be attached to the printer but a communications problem may prevent the printer from detection. For example, there may be a poor connection or a hardware failure. The following actions may be taken: • If the option was temporarily removed or not connected properly, reattach or reconnect it. • Press ✓ to execute a configuration change which notifies the printer the option has been hot unplugged (removed with the power on). **Note:** This action is not available if the printer is in Diagnostics Mode or running diagnostics. • If the device is experiencing a hardware problem, turn the printer off and on. If the message continues to be displayed, go to **"Duplex option service check" on page 2-82**.
		Check Tray *x* Connection	Tray *x*=Tray 2, Tray 3, Tray 4, or Tray 5 This messages displays for the following conditions: • The specified device may have been removed from the printer, possibly to clear a paper jam or to uninstall the option. • The option may be attached to the printer but a communications problem may prevent the printer from detecting the option. For example, there may be a poor connection or a hardware failure. The following actions may be taken: • If the option was temporarily removed or not connected properly, reattach or reconnect it. • Press ✓ to execute a configuration change which notifies the printer the option has been hot unplugged (removed with the power on). **Note:** This action is not available if the printer is in Diagnostics Mode or running diagnostics. • If the device is experiencing a hardware problem, turn the printer off and on. If the message continues to be displayed, go to **"Input tray(s) service check" on page 2-102**.
		Close Finisher Side Door	Close the finisher side door. If the message does not clear automatically when the door is closed, go to **"StapleSmart finisher service check" on page 2-123**.
		Close Finisher Top Cover	Close the finisher top cover. If the message does not clear automatically when the cover is closed, go to **"StapleSmart finisher service check" on page 2-123**.
		Delete All Jobs Go/Stop?	When the user has selected the Print and Hold Delete All Jobs selection, this message is displayed. The following actions may be taken: • Press ✓ to confirm the selection. All jobs are deleted. • Press ↺ or ✕ to cancel the delete operation.

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User attendance messages (continued)

Error code	Sub code	Primary message	Description/action
		Disk Corrupted Reformat?	The printer has detected there are errors on the hard disk that cannot be corrected. The disk cannot be used until it is reformatted. **Warning:** All data on the disk will be lost if you format the disk. The following actions can be taken: • Power off and remove the disk. The disk will not be formatted. • Press ✓ to format the disk. All data is lost when you format the disk.
		Empty Box M	This message is displayed when the hole punch alarm is on and the printer informed by the code the hole punch box M is full. The following actions may be taken: • Empty the hole punch box. • Press ✓ to ignore the message. The `Box M Full` appears on line 2 of the display and the job is printed without hole punching. The message remains until the box is emptied. If this message continues to be displayed when the box has been emptied, go to **"StapleSmart finisher service check" on page 2-123**.
		Insert Box M	This message is displayed when the hole punch box is missing or installed incorrectly. The message is displayed during any of the following times, regardless of the hole punch alarm setting: • At POST • After the finisher side door has been closed • Before the first page of a job requesting hole punch. The message displays once per job. The following actions can be taken: • Install the hole punch box. • Press ✓ to ignore the message. The `Box M Missing` message appears on the status line. A job that is set for hole punching will not be punched. The message continues to display on all subsequent jobs that request hole punching. If this message cannot be cleared after inserting the box, go to **"StapleSmart finisher service check" on page 2-123**.
		Insert Cartridge or Close Door	This message displays when the printer front door is open or the print cartridge is missing. If this message cannot be cleared, go to **"Cover closed switch/cable service check" on page 2-80**.
		Insert Staple Cartridge	This message displays when the staple cartridge is missing or installed incorrectly. The message appears, regardless of the Staple Alarm setting, at the following times: • At POR • After the Stapler Door has been closed. The following actions can be taken: • Install the stapler cartridge. • Press ✓ to clear the message. The printer handles stapled jobs as if the staple cartridge were installed, but empty. The Staples Empty message appears on the status line and the Load Staples may display.

User attendance messages (continued)

Error code	Sub code	Primary message	Description/action
		Insert <*tray*>	<*tray*>=Tray 1, Tray 2, Tray 3, Tray 4, or Tray 5. The printer detects a tray needs to be inserted. The printer does not continue until it detects the tray is inserted. **Note:** This situation usually occurs when the tray is refilled during a job. To refill a tray during a printing session, press ⊗ and wait for pages to reach the output bin before refilling the tray. The following actions may be taken: • Insert the requested tray. • Press 🔑 until `Busy/Waiting` displays. The following selections are available: - Cancel Job - Reset Printer - Reset Active Bin If the message cannot be cleared, go to **"Paper size sensing service check" on page 2-113** or **"Input tray(s) service check" on page 2-102**.
		Install Bin *x* or Cancel Job	Bin *x*=Bin 1, Bin 2, or Bin 3. This message is displayed when a paper handling option has been hot unplugged. The printer requires the reinstallation of the option to print a page which has been formatted by the interpreter before the option was removed. The following actions may be taken: • Install the option. • Press 🔑 until `Busy/Waiting` displays. Select one of the following: - Cancel Job - Reset Printer - Reset Active Bin If the message cannot be cleared, go to **"Input tray(s) service check" on page 2-102**.
		Install Duplex or Cancel Job	This message is displayed when a duplex option has been hot unplugged. The printer requires the reinstallation of the option to print a page which has been formatted by the interpreter before the option was removed. The following actions may be taken: • Install the duplex option. • Press 🔑 until `Busy/Waiting` displays. Select one of the following: - Cancel Job - Reset Printer - Reset Active Bin If the message cannot be cleared, go to **"Duplex option service check" on page 2-82**.

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User attendance messages (continued)

Error code	Sub code	Primary message	Description/action
		Install Env Feed or Cancel Job	This message is displayed when the envelope feeder has been hot unplugged. The printer requires the reinstallation of the feeder to print a page which has been formatted by the interpreter before the feeder was removed. The following actions may be taken: • Install the envelope feeder. • Press (Menu) until `Busy/Waiting` displays. Select one of the following: - Cancel Job - Reset Printer - Reset Active Bin If the message cannot be cleared, go to **"Envelope feeder service check" on page 2-84**.
		Install Tray *x* or Cancel Job	Tray *x*=Tray 2, Tray 3, Tray 4, Tray 5. This message is displayed when a paper handling option has been hot unplugged. The printer requires the reinstallation of the option to print a page which has been formatted by the interpreter before the option was removed. The following actions may be taken: • Install the option. • Press (Menu) until `Busy/Waiting` displays. Select one of the following: - Cancel Job - Reset Printer - Reset Active Bin If the message cannot be cleared, go to **"Input tray(s) service check" on page 2-102**.
		Load Staples	This message displays when the Staples Empty Alarm is activated and one of the following occurs: • There are no staples in the stapler. • The maximum number of staples have been fired after the engine has reported that the staple cartridge is low. • The printer does not detect the staple cartridge is present. The following actions may be taken: • Install a new staple cartridge to clear this message and select **Start** or **Continue** to resume printing the staple job. • Choose to ignore the Load Staples message for this print job by pressing (Select). The printer starts or resumes printing, but does not staple the rest of the job. • Press (Menu) until `Busy/Waiting` displays. The following actions may be available: - Cancel Job - Reset Printer - Reset Active Bin
		Priming Failed Retry. Go/Stop?	This message displays when an error has occurred during the staple priming operation. This message not only notifies the user that a specific error interfered with the priming, but allows the user to request the process begin again. The following actions are available: • Press (Select) to restart the priming operation. • Press (Back) or (Stop) to cancel the priming operation.

User attendance messages (continued)

Error code	Sub code	Primary message	Description/action
		Reattach Bins *x*–*y*	Bins *x*–*y*=Bins 1 to 5, Bins 2 to 6, or Bins 6 to 10 This messages displays for the following conditions: • The specified output bins may have been removed from the printer, possibly to clear a paper jam or to remove the option. • The option(s) may be attached to the printer but a communications problem may prevent the printer from detecting the option. For example, there may be a poor connection or a hardware failure. The following actions may be taken: • If the option was temporarily removed or not connected properly, reattach or reconnect it. • Press ✓ to execute a configuration change which notifies the printer the option has been hot unplugged (removed with the power on). **Note:** This action is not available if the printer is in Diagnostics Mode or running diagnostics. • If the device is experiencing a hardware problem, turn the printer off and on. If the message continues to be displayed, go to **"Input tray(s) service check" on page 2-102**.
		Reattach Envelope Feeder	This messages displays for the following conditions: • The feeder may have been removed from the printer, possibly to clear a paper jam or to remove the option. • The feeder may be attached to the printer but a communications problem may prevent the printer from detecting the option. For example, there may be a poor connection or a hardware failure. The following actions may be taken: • If the option was temporarily removed or not connected properly, reattach or reconnect it. • Press ✓ to execute a configuration change which notifies the printer the option has been hot unplugged (removed with the power on). **Note:** This action is not available if the printer is in Diagnostics Mode or running diagnostics. • If the device is experiencing a hardware problem, turn the printer off and on. If the message continues to be displayed, go to **"Envelope feeder service check" on page 2-84**.
		Reattach Output Bin *x*	Bin *x*=Bin 1, Bin 2, or Bin 3 This messages displays for the following conditions: • The specified output bin may have been removed from the printer, possibly to clear a paper jam or to remove the option. • The option may be attached to the printer but a communications problem may prevent the printer from detecting the option. For example, there may be a poor connection or a hardware failure. The following actions may be taken: • If the option was temporarily removed or not connected properly, reattach or reconnect it. • Press ✓ to execute a configuration change which notifies the printer the option has been hot unplugged (removed with the power on). **Note:** This action is not available if the printer is in Diagnostics Mode or running diagnostics. • If the device is experiencing a hardware problem, turn the printer off and on. If the message continues to be displayed, go to**"Output expander service check" on page 2-110**.

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User attendance messages (continued)

Error code	Sub code	Primary message	Description/action
31	.xx	Defective Print Cartridge	Error code 31 displays when the top front cover is closed and a defective print cartridge is detected. It may take the printer 10-20 seconds to determine if the print cartridge is defective. Depending on the setting of the Machine Class ID the printer may be allowed to print pages during this 10-20 second interval. If pages are allowed to print, they are not reprinted once a good print cartridge is inserted. **Note**: This error indicates the printer was able to read the cartridge ID, but the ID did not pass the verification test. To pass the verification test, the ID read from the print cartridge must match the ID from the last "good" print cartridge or the same ID must be read from the print cartridge twice. The last "good" print cartridge ID is stored in NVRAM.
32	.xx	Unsupported Print Cartridge	Error 32 displays when the top cover is closed and an unsupported print cartridge is detected. It may take the printer 10-20 seconds to determine if the print cartridge is supported. Depending on the setting of the Machine Class ID the printer may be allowed to print pages during this 10-20 second interval. If pages are allowed to print, then they are not reprinted once a good print cartridge is inserted. If this does not fix the problem, go to **"Signature button assembly service check" on page 2-122**.
34	.xx	Short Paper	The printer determines the paper length is too short to print the formatted data. This occurs when the printer does not know the actual paper size loaded in the tray. For auto-size sensing trays, this error occurs if the paper stop is in the incorrect position. Make sure the Paper Size setting is correct for the size paper that is being used.
36	.xx	Resolution Reduced	The resolution of the page has been reduced from 600 dpi to 300 dpi to prevent a Memory Full error. This message can only occur if the Resolution Reduction setting is turned on. **Note:** 1200 dpi pages are not resolution reduced. If a 1200 dpi job runs out of memory, a Memory Full error displays.
37	.xx	Insufficient Collation Area	This message displays when the printer memory is insufficient to perform the Flash Memory Defragment operation. **Note:** This message is posted prior to the actual start of the defragment operation. The printer code determines if enough printer memory is available to complete the defragment operation. The user should not be concerned with losing resources stored in the flash option. The following actions may be taken: • Press ✓ to clear the message. To perform the defragment operation: - Delete fonts, macros, and other data in RAM. - Install additional printer memory. • Press 🔑 until Busy/Waiting appears. The following actions are available: - Cancel Job - Reset Printer - Reset Active Bin

User attendance messages (continued)

Error code	Sub code	Primary message	Description/action
37	.xx	Insufficient Memory	This message displays when the printer memory used to restore the Print and Hold jobs from the disk and found that some or all of the jobs could not be restored. The printer ran out of memory while attempting to restore the jobs. • Press ✓ to clear the message. Some of the Print and Hold jobs on the disk will not be restored. They remain on the disk, but cannot be accessed. • Press 🔑 until Busy/Waiting appears. The following functions may be available: - Cancel Job - Reset Printer - Reset Active Bin
38	.xx	Memory Full	This message displays when the printer is processing an incoming job and there is insufficient memory available to continue processing the job. The following actions may be taken: • Press ✓ to clear the message. Perform the defragment operation: - Perform the defragment operation - Delete fonts, macros, and other data in RAM - Install additional memory • Press 🔑 to display Busy/Waiting. The following functions may be available: - Cancel Job - Reset Printer - Reset Active Bin
39	.xx	Complex Page	This message displays when the page is too complex to print. The following actions may be taken: • Press ✓ to clear the message and continue the job. Some data loss may occur. Simplify the print job and reprint, if necessary. • Press 🔑 until Busy/Waiting appears. The following selections are possible: - Cancel Job - Reset Printer - Reset Active Bin
50	.xx	PPDS Font Error	This message displays when the PPDS interpreter has encountered a font error. **Note:** This error may only occur when the printer is formatting PPDS print data. The following actions may be taken: • Press ✓ to clear the message and continue processing the job. • Press 🔑 until Busy/Waiting appears. The following are available: - Cancel Job - Reset Printer - Reset Active Bin
51	.xx	Defective Flash	This message displays when the printer detects a defective flash. This error may occur at power on, or during flash format and write operations. Press ✓ to clear the message. The flash is marked as bad and normal operation continues. Flash operations are not allowed until the problem is resolved.

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User attendance messages (continued)

Error code	Sub code	Primary message	Description/action
52	.xx	Flash Full	This message displays when there is not enough free space in the flash memory to hold the resources that have been requested to be written to flash.
53	.xx	Unformatted Flash	This message displays when the printer detects an unformatted flash at power on. Press ✓ to clear the message. The flash is marked as bad and normal operation continues. Flash operations are not allowed until the flash is formatted.
54	.xx	Standard Network Software Error	This error displays when a network port is detected, but the printer cannot establish communications with it.
54	.xx	Network *x* Software Error	This error displays when a network port is detected, but the printer cannot establish communications with it.
55	.xx	Unsupported option in Slot *x*	An unsupported option is installed in the specified solutions port. Power off the printer and remove the unsupported option in the specified slot.
55	.xx	Unsupported Flash in Slot *x*	An unsupported flash option is installed in the solutions port. Power off the printer and remove the unsupported flash option in the specified slot.
56	.xx	Standard Serial Disabled	This error displays when data is sent to the printer across the standard serial port, but the port has been disabled.
56	.xx	Serial Port *x* Disabled	This error displays when data is sent to the printer across an optional parallel port, but the port has been disabled. Once this message displays, reporting of further errors is suppressed until the menus are entered, or the printer is reset.
56	.xx	Standard USB Port Disabled	Displayed when status is requested over the USB port, but the port has been disabled. Once the error has been displayed for the first time, reporting of further errors is suppressed until the menus are entered or the printer is reset. The following actions may be taken: • Press ✓ to clear the message. The printer discards any data received on the USB port. • Press 🔑 until Busy/Waiting appears. The following are available: - Reset Printer - Reset Active Bin
56	.xx	Standard USB Port *x* Disabled	Displayed when status is requested over the USB port indicated, but the port has been disabled. Once the error has been displayed for the first time, reporting of further errors is suppressed until the menus are entered or the printer is reset. The following actions may be taken: • Press ✓ to clear the message. The printer discards any data received on the USB port. • Press 🔑 until Busy/Waiting appears. The following are available: - Reset Printer - Reset Active Bin

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User attendance messages (continued)

Error code	Sub code	Primary message	Description/action
56	.xx	Standard Parallel Port Disabled	This error is displayed when data is sent to the printer across the parallel port, but the parallel port has been disabled. Once this message is displayed, reporting of further errors is suppressed until the menus are entered, or the printer is reset. The following actions may be taken: • Press ✓ to clear the message. The printer discards any data received on the parallel port. • Press 🔑 until Busy/Waiting appears. The following are available: - Reset Printer - Reset Active Bin
56	.xx	Parallel Port *x* Disabled	This error is displayed when data is sent to the printer across the parallel port, but the parallel port indicated has been disabled. Once this message is displayed, reporting of further errors is suppressed until the menus are entered, or the printer is reset. The following actions may be taken: • Press ✓ to clear the message. The printer discards any data received on the parallel port. • Press 🔑 until Busy/Waiting appears. The following are available: - Reset Printer - Reset Active Bin
57	.xx	Configuration Change	The printer has attempted to restore the Print and Hold jobs from the disk and found that some or all of the jobs could not be restored. The printer could not restore jobs from the disk because the configuration of the printer has changed. This message alternates with the secondary message, `Held jobs may not be restored`. Some configuration changes that may cause this condition are: • Code version change • Paper handling option is removed • Disk has been moved to a different model printer. Press ✓ to clear the message. Some of the Print and Hold jobs stored on the disk will not be restored. They remain on the disk, but cannot be accessed.
58	.xx	Too Many Trays Attached	This error code displays when too many input trays are attached to the printer.
58	.xx	Too Many Disks Installed	This error displays when too many disks are attached to the printer.
59	.xx	Incompatible Output Bin *x*	An incompatible output bin is installed. For Output Bin *x*, *x*=1, 2, or 3. Remove the incompatible output bin and press ✓ to clear the message. **Note:** If the user installed the incompatible device to satisfy a Check Device Connections/reattach message, the user should reinstall an associated compatible option or hot unplug the option.
59	.xx	Incompatible Envelope Feeder	An incompatible envelope feeder is installed. Remove the incompatible feeder and press ✓ to clear the message. **Note:** If the user installed the incompatible device to satisfy a Check Device Connections/reattach message, the user should reinstall an associated compatible option or hot unplug the option.

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User attendance messages (continued)

Error code	Sub code	Primary message	Description/action
59	.xx	Incompatible Tray *x*	An incompatible tray is installed. For Tray *x*, *x*= 2, 3, 4, or 5. Remove the incompatible tray and press ✓ to clear the message. **Note:** If the user installed the incompatible device to satisfy a Check Device Connections/reattach message, the user should reinstall an associated compatible option or hot unplug the option.
59	.xx	Incompatible Duplex	An incompatible duplex option is installed. Remove the incompatible duplex option and press ✓ to clear the message. **Note:** If the user installed the incompatible device to satisfy a Check Device Connections/reattach message, the user should reinstall an associated compatible option or hot unplug the option.
59	.xx	Defective Disk	This error code displays when the printer detects a defective disk. This error may occur at power on or during disk format and write operations. While this message displays, press ✓ to clear the message. The disk is marked defective and normal printer operations continue. Disk operations are not allowed with a defective disk. The Format Disk menu is not shown.
62	.xx	Disk Full	This error code displays when there is not enough free space on the disk to hold the resources that have been requested to be written to the disk. This message displays for both resource and PostScript Disk operators when the disk is full.
63	.xx	Unformatted Disk	This error code displays when the printer detects an unformatted disk at power on. Press ✓ to clear the message. The disk is marked as bad and normal operation continues. Disk operations are not allowed until the disk is formatted.
64	.xx	Unsupported Disk Format	The printer detects an unsupported disk format at POR. Press ✓ to clear the message. The disk is marked as bad and normal operation continues. Further disk operations are not allowed until the disk is formatted.
80	.xx	Scheduled Maintenance	The operator panel displays this message at each 300K page count interval. It is necessary to replace the fuser assembly, transfer roller, charge roll, and pick rolls at this interval to maintain the print quality and reliability of the printer. The parts are available as a maintenance kit. For more information, go to **“Scheduled maintenance” on page 6-1**.
81	.xx	Engine Code CRC Failure	This error displays when the microcode to be programmed in the engine flash code module has failed a CRC check. Press ✓ to clear the message. The microcode data is discarded and must be re-transmitted from the host computer.
.88	.xx	Toner Low	This message displays when toner low occurs and the toner low alarm is activated. Press ✓ to clear this message.
1565	.xx	Emul Error Load Emul Option	This message appears when the IPDS emulation version contained in the SIMM does not function with the printer code. This message automatically clears in 30 seconds, and the IPDS emulation is disabled. No other printer functions are affected. The correct IPDS emulation must be downloaded.

User line 2 link messages

If the printer is locked on a particular link, the link indication displays. If the printer is ready to process any link, no messages display. Link messages are listed in the following table.

User message	Explanation
Parallel	Standard Parallel Port, if available.
Serial	Standard Serial Port, if available.
Serial *x*	Serial Port is attached to PCI connector *x*, where *x*=1, 2, or 3.
Network *x*	Network card *x* is attached to PCI connector *x,* where *x*=1, 2, or 3.
LocalTalk *x*	LocalTalk Card *x* is attached to PCI connector *x,* where *x*=1, 2, or 3.
Infrared	Standard Infrared port, if available.
Infrared *x*	Infrared Port *x* is attached to PCI connector *x*, *x*=1, 2, or 3.

Check device connection messages

The messages in the following table display when the printer loses communications with one of the following devices.

User status message	Explanation
Check Env Feeder Connection	Check envelope feeder connection.
Check Tray *x* Connection	Check tray *x*, where *x*=1, 2, 3, 4, or 5.
Check Duplex Connection	Check duplex option connection.

The messages in the following table can occur in two ways. The specified device could have been removed from the printer, for instance to clear a paper jam. Otherwise, the device can still be attached to the printer, but is experiencing a communications problem, not fully connected, or having a hardware failure.

If the device is temporarily removed or not connected properly, then the user is advised to reattach it. When the option is recognized, the printer automatically clears the error and continues. If the option is experiencing a hardware problem, turn the printer off and back on. If the error occurs again, the user is advised to turn the printer off, remove the option, and call for service.

User status message	Explanation
Turn Printer OFF to Enable Option	A printer option, Input Tray, or Envelope Feeder has been attached while the printer is powered on. To use the option, the printer must first be powered off and back on again. Data loss results if print jobs are active when the printer is power cycled. If a print job is active, then remove the option and finish the job. The printer automatically clears the message once the option is removed. Once the job is complete, turn off the printer and attach the option again.
Insert Duplex Front Cover	The duplex front access cover is not installed.
Close Duplex Rear Door	The duplex rear door is open.

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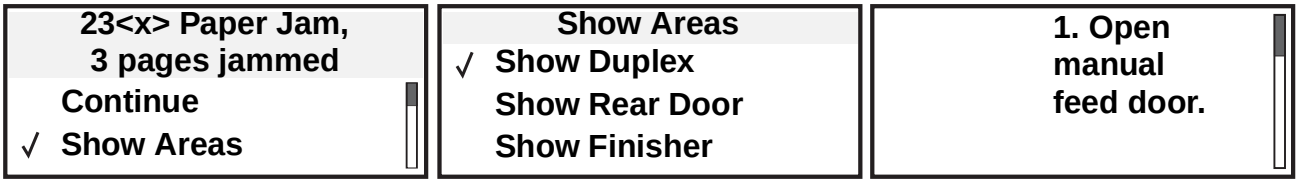
User attendance messages—paper jams and paper handling errors (2xx.xx)

When the printer jams, the appropriate jam message will be displayed on the printer operator panel. If you select `Show Areas` on the operator panel, you can view one or more images to help you clear the jam.



User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
200	.00	Paper jam around input sensor.	• Multi-sheet feed that is shingled. • Tray size sensing wrong size • Paper jam leaving page over sensor	• Fan media and stack flat in tray or multipurpose feeder. • Check for anything in the paper path that might cause the paper to jam. • If clearing a paper jam does not fix the problem, go to **“Input sensor service check” on page 2-102**.
200	.01	Input sensor covered too long.	• Multi-sheet feed that is shingled. • Tray size sensing wrong size. • Paper jam leaving page over sensor.	• Fan media and stack flat in tray or MPF. • Check for anything in the paper path that might cause the paper to jam. • If clearing a paper jam does not fix the problem, go to **“Input sensor service check” on page 2-102**.
200	.02	Input sensor covered too long.	• Multi-sheet feed that is shingled. • Tray size sensing wrong size. • Paper jam leaving page over sensor.	• Fan media and stack flat in tray or MPF. • Check for anything in the paper path that might cause the paper to jam. • If clearing a paper jam does not fix the problem, go to **“Input sensor service check” on page 2-102**.
200	.04	Input sensor covered too quickly	• Paper pre-staged in path. • Wrong configuration ID causes engine to assume 500-sheet paper path on 250-sheet model. • Bouncy input sensor.	• Check MPF and friction pad. • Fan media and stack flat in tray or MPF. • Use different media. • Check config ID.
200	.06	Imaged page not expected page.	Bouncy pass thru sensor.	Perform a sensor test to check the sensor for the tray. See **“Sensor Test (input tray)” on page 3-13**.
200	.07	Option tray never picked a page.		Go to **“Input sensor service check” on page 2-102**.

User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
200	.08	Input sensor covered too quickly	• Paper pre-staged in path. • Bouncy input sensor.	• Check MPF and friction pad. • Fan media and stack flat in tray or MPF. • Use different media.
200	.09	Did not receive proper motor feedback to start laser servo.	Motor connections	Check the main drive motor cable connections. If no problem is found with motor connections, go to **"Main drive service check" on page 2-105**.
200	.10	Printhead motor not locked when page crosses input sensor	• Printhead lock signal not working. • Printhead control not working.	Go to **"Printhead service check" on page 2-122**.
200	.11	Printhead motor fell out of lock after page arrives at input sensor	• Paper pre-staged in path. • Lock signal went away.	Go to **"Printhead service check" on page 2-122**.
200	.13	Input sensor covered during warm-up sequence.	Page still covering input sensor.	Go to **"Input sensor service check" on page 2-102**.
200	.16	Main drive motor error possibly due to mechanical load.	Main drive motor not working.	Go to **"Main drive service check" on page 2-105**.
200	.32	Detected cover switch bounce.	• Upper cover not fully closed. • Cover switch not functioning correctly.	Go to **"Cover closed switch/ cable service check" on page 2-80**.
201	.00	Page did not reach exit sensor. Fuser page count between 0 and 99,999.	• Page jammed on fuser input guide. • Page did not enter or exit fuser nip cleanly. • Exit sensor not functioning correctly.	• Check fuser entry guide for toner build up. • Check fuser for wear or contamination. If problem is found, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • The fuser exit sensor may not be functioning properly. Go to **"Fuser exit sensor service check" on page 2-92**.
201	.01	Main drive motor identification failed. Fuser page count between 0 and 99,999.	Main drive motor not working.	Check motor connections to motor and system board. If no problem is found, go to **"Main drive service check" on page 2-105**.

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User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
201	.02	Page did not reach exit sensor. Fuser page count between 0 and 99,999.	• Page jammed on fuser input guide. • Page did not enter or exit fuser nip cleanly. • Exit sensor not functioning correctly.	• Check fuser entry guide for toner build up. • Check the fuser for wear or contamination. If a problem is found, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • If no problem with wear or contamination is found, go to **"Fuser exit sensor service check" on page 2-92**
201	.04	Expected wide page not detected by narrow media sensor, possible accordion jam. Fuser page count between 0 and 99,999.	• Page did not enter or exit fuser nip cleanly. • Narrow media sensor not functioning correctly. • Actual page is narrow when wide page was expected.	• If label media, ensure front edge meets 1/16 inch requirement. • Check the fuser for wear or contamination. If found, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • If media is narrow, then turn off first sheet detection (engine settings 3 = 16). In Diagnostics mode, select **PRINTER SETUP** and **Engine Setting 3**. • The fuser narrow media sensor may not be operating properly. Go to **"Fuser narrow media sensor service check" on page 2-93**.
201	.10	Page did not reach exit sensor. Fuser page count between 100,000 and 199,999.	• Page jammed on fuser input guide. • Page did not enter or exit fuser nip cleanly. • Exit sensor not functioning correctly.	• Check fuser entry guide for toner build up. • Check fuser for wear or contamination. If a problem is found, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • The fuser exit sensor may not be functioning properly. Go to **"Fuser exit sensor service check" on page 2-92**.
201	.11	Main drive motor identification failed. Fuser page count between 100,000 and 199,999.	Main drive motor not working.	• Check motor to system board connections. • Replace the main drive motor. **"Main drive assembly removal" on page 4-57**.

User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
201	.12	Page did not reach exit sensor. Fuser page count between 100,000 and 199,999.	• Page jammed on fuser input guide. • Page did not enter or exit fuser nip cleanly. • Exit sensor not functioning correctly.	• Check fuser entry guide for toner build up. • Check fuser for wear or contamination. if a problem is found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • The fuser exit sensor may not be functioning correctly. Go to **“Fuser exit sensor service check” on page 2-92**.
201	.14	Expected wide page not detected by narrow media sensor, possible accordion jam. Fuser page count between 100,000 and 199,999.	• Page did not enter or exit fuser nip cleanly. • Narrow media sensor not functioning correctly. • Actual page is narrow when wide page was expected.	• If label media, ensure front edge meets 1/8 inch requirement. • Check fuser for wear or contamination. If a problem is found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • If media is narrow, then turn off first sheet detection (engine settings 3 = 16). In Diagnostics mode, select **PRINTER SETUP** and **Engine Setting 3**. • The fuser narrow media sensor may not be operating properly. Go to **“Fuser narrow media sensor service check” on page 2-93**.
201	.20	Page did not reach exit sensor. Fuser page count between 200,000 and 299,999.	• Page jammed on fuser input guide. • Page did not enter or exit fuser nip cleanly. • Exit sensor not functioning correctly.	• Check fuser entry guide for toner build up. • Check fuser for wear or contamination. If a problem is found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.
201	.21	Main drive motor identification failed. Fuser page count between 200,000 and 299,999.	Main drive motor not working.	Check motor connections to motor and system board. If no problem is found, go to **“Main drive service check” on page 2-105**.

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User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
201	.22	Page did not reach exit sensor. Fuser page count between 200,000 and 299,999.	• Page jammed on fuser input guide. • Page did not enter or exit fuser nip cleanly. • Exit sensor not functioning correctly.	• Check fuser entry guide for toner build up. • Check fuser for wear or contamination. If a problem is found, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • The fuser exit sensor may not be functioning properly. Go to **"Fuser exit sensor service check" on page 2-92**.
201	.24	Expected wide page not detected by narrow media sensor, possible accordion jam. Fuser page count between 200,000 and 299,999	• Page did not enter or exit fuser nip cleanly. • Narrow media sensor not functioning correctly. • Actual page is narrow when wide page was expected.	• If label media, ensure front edge meets 1/8 inch requirement. • Check fuser for wear or contamination. If problem is found, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • If media is narrow, then turn off first sheet detection (engine settings 3 = 16). In Diagnostics mode, select **PRINTER SETUP** and **Engine Setting 3**. • The fuser narrow media sensor may not be functioning properly. Go to **"Fuser narrow media sensor service check" on page 2-93**.
201	.30	Page did not reach exit sensor. Fuser page count between 300,000 and 399,999	• Page jammed on fuser input guide. • Page did not enter or exit fuser nip cleanly. • Exit sensor not functioning correctly.	• Check the fuser entry guide for toner build up. • Check fuser for wear or contamination. If a problem is found, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • The fuser exit sensor may not be functioning properly. Go to **"Fuser exit sensor service check" on page 2-92**.
201	.31	Main drive motor identification failed. Fuser page count between 300,000 and 399,999.	Main drive motor not working.	Check the motor connections to motor and system board. If no problem is found, go to **"Main drive service check" on page 2-105**.

User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
201	.32	Page did not reach exit sensor. Fuser page count between 300,000 and 399,999.	• Page jammed on fuser input guide. • Page did not enter or exit fuser nip cleanly. • Exit sensor not functioning correctly.	• Check the fuser entry guide for toner build up. • Check the fuser for wear or contamination. If a problem is found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.
201	.34	Expected wide page not detected by narrow media sensor, possible accordion jam. Fuser page count between 300,000 and 399,999.	• Page did not enter or exit fuser nip cleanly. • Narrow media sensor not functioning correctly. • Actual page is narrow when wide page was expected.	• If label media, ensure front edge meets 1/8 inch requirement. • Check the fuser for wear or contamination. If a problem is found, replace the fuser assembly. See**“Fuser assembly removal” on page 4-26**. • If media is narrow, then turn off first sheet detection (engine settings 3 = 16). In Diagnostics mode, select **PRINTER SETUP** and **Engine Setting 3**. • The fuser narrow media sensor may not be functioning properly. Go to **“Fuser narrow media sensor service check” on page 2-93**.
201	.40	Page did not reach exit sensor. Fuser page count between 400,000 and 499,999.	• Page jammed on fuser input guide. • Page did not enter or exit fuser nip cleanly. • Exit sensor not functioning correctly.	• Check fuser entry guide for toner build up. • Check the fuser for wear or contamination. If a problem is found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.
201	.41	Main drive motor identification failed. Fuser page count between 400,000 and 499,999.	Main drive motor not working.	Check the motor connections to motor and system board. If no problem is found, go to **“Main drive service check” on page 2-105**.

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User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
201	.42	Page did not reach exit sensor. Fuser page count between 400,000 and 499,999.	• Page jammed on fuser input guide. • Page did not enter or exit fuser nip cleanly. • Exit sensor not functioning correctly.	• Check the fuser entry guide for toner build up. • Check the fuser for wear or contamination. If a problem is found, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • The fuser exit sensor may not be functioning properly. Go to **"Fuser exit sensor service check" on page 2-92**.
201	.44	Expected wide page not detected by narrow media sensor, possible accordion jam. Fuser page count between 400,000 and 499,999.	• Page did not enter or exit fuser nip cleanly. • Narrow media sensor not functioning correctly. • Actual page is narrow when wide page was expected.	• If label media, ensure front edge meets 1/8 inch requirement. • Check the fuser for wear or contamination. If a problem is found, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • If media is narrow, then turn off first sheet detection (engine settings 3 = 16). In Diagnostics mode, select **PRINTER SETUP** and **Engine Setting 3**. • The fuser narrow media sensor may not be functioning properly. Go to **"Fuser narrow media sensor service check" on page 2-93**.
201	.50	Page did not reach exit sensor. Fuser page count stopped at 500,000 to preserve data.	• Page jammed on fuser input guide. • Page did not enter or exit fuser nip cleanly. • Exit sensor not functioning correctly.	• Check the fuser entry guide for toner build up. • Check the fuser for wear or contamination. If a problem is found, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • The fuser exit sensor may not be functioning properly. Go to **"Fuser exit sensor service check" on page 2-92**.
201	.51	Main drive motor identification failed. Fuser page count stopped at 500,000 to preserve data.	Main drive motor not working.	Check the connections to the motor and system board. If not problem is found, go to **"Main drive service check" on page 2-105**.

User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
201	.52	Page did not reach exit sensor. Fuser page count stopped at 500,000 to preserve data.	• Page jammed on fuser input guide. • Page did not enter or exit fuser nip cleanly. • Exit sensor is not functioning correctly.	• Check the fuser entry guide for toner build up. • Check the fuser for wear or contamination. If a problem is found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.
201	.54	Expected wide page not detected by narrow media sensor, possible accordion jam. Fuser page count stopped at 500,000 to preserve data.	• Page did not enter or exit fuser nip cleanly. • Narrow media sensor not functioning correctly. • Actual page is narrow when wide page was expected.	• If label media, ensure front edge meets 1/8 inch requirement. • Check the fuser for wear or contamination. If a problem is found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • If media is narrow, then turn off first sheet detection (engine settings 3 = 16). In Diagnostics mode, select **PRINTER SETUP** and **Engine Setting 3**. • The fuser narrow media sensor may not be functioning properly. Go to **“Fuser narrow media sensor service check” on page 2-93**.
201	.90	Page did not reach exit sensor. Fuser page count is not available.	• Page jammed on fuser input guide. • Page did not enter or exit fuser nip cleanly. • Exit sensor not functioning correctly.	• Check the fuser entry guide for toner build up. • Check the fuser for wear or contamination. If a problem is found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.
201	.91	Main drive motor identification failed. Fuser page count is not available.	Main drive motor not working.	Check the connections to the motor and system board. If not problem is found, go to **“Main drive service check” on page 2-105**.

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User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
201	.92	Page did not reach exit sensor. Fuser page count is not available.	• Page jammed on fuser input guide. • Page did not enter or exit fuser nip cleanly. • Exit sensor not functioning correctly.	• Check the fuser entry guide for toner build up. • Check the fuser for wear or contamination. If a problem is found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.
201	.94	Expected wide page not detected by narrow media sensor, possible accordion jam. Fuser page count is not available.	• Page did not enter or exit fuser nip cleanly. • Narrow media sensor not functioning correctly. • Actual page is narrow when wide page was expected.	• If label media, ensure front edge meets 1/8 inch requirement. • Check the fuser for wear or contamination. If a problem is found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • If media is narrow, then turn off first sheet detection (engine settings 3 = 16). In Diagnostics mode, select **PRINTER SETUP** and **Engine Setting 3**. • The fuser narrow media sensor may not be functioning properly. Go to **“Fuser narrow media sensor service check” on page 2-93**.

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User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
202	.00	Paper jam at fuser exit or redrive area. Fuser page count between 0 and 99,999.	Page may be jammed in fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output option(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **"Fuser exit sensor service check" on page 2-92**.
202	.01	Page did not cleanly exit fuser or redrive area. Fuser page count between 0 and 99,999.	Page may be jammed in fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **"Fuser exit sensor service check" on page 2-92**.

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User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
202	.02	Exit sensor covered too long. Fuser page count between 0 and 99,999.	Page may be jammed in fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.
202	.03	Page is covering narrow media sensor during warm up. Fuser page count between 0 and 99,999.	If page is not visible from front or rear of machine, partial piece of page may be torn off in fuser covering narrow media sensor. Narrow media sensor or flag may be dislodged/damaged.	Check the fuser for any signs of a piece of media stuck in the fuser.
202	.04	Exit sensor bounced. Fuser page count between 0 and 99,999.	Exit sensor assembly.	Go to **“Fuser exit sensor service check” on page 2-92**.
202	.06	Page is covering exit sensor during warm up. Fuser page count between 0 and 99,999.	Something is keeping the exit sensor in a covered position. A page may not have been cleared from a prior jam.	Check the fuser and area around the fuser assembly for any signs of debris or pieces of paper or media.

User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
202	.10	Paper jam around fuser or redrive area. Fuser page count between 100,000 and 199,999.	Page may be jammed in fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.
202	.11	Page did not cleanly exit fuser or redrive area. Fuser page count between 100,000 and 199,999.	Page may be jammed in fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.

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User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
202	.12	Exit sensor covered too long. Fuser page count between 100,000 and 199,999.	Page may be jammed in fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.
202	.13	Page is covering narrow media sensor during warm up. Fuser page count between 100,000 and 199,999.	• If page is not visible from front or rear of the machine, partial piece may be torn off in the fuser covering the narrow media sensor. • The narrow media sensor or flag may be dislodged or damaged.	Check the fuser and area around the fuser assembly for any signs of debris or pieces of paper or media.
202	.14	Exit sensor bounced. Fuser page count between 100,000 and 199,999.	Exit sensor assembly.	Go to **“Fuser exit sensor service check” on page 2-92**.
202	.16	Page is covering exit sensor during warm up. Fuser page count between 100,000 and 199,999.	Something is keeping the exit sensor in a covered position. A page may not have been cleared from a prior jam.	Check the fuser and area around the fuser assembly for any signs of debris or pieces of paper or media.

User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
202	.20	Paper jam around fuser exit or redrive area. Fuser page count between 200,000 and 299,999.	Paper may be jammed in fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **"Fuser exit sensor service check" on page 2-92**.
202	.21	Page did not cleanly exit fuser or redrive area. Fuser page count between 200,000 and 299,999.	Page may be jammed in fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **"Fuser exit sensor service check" on page 2-92**.

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User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
202	.22	Exit sensor covered too long. Fuser page count between 200,000 and 299,999.	Page may be jammed in fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.
202	.23	Page is covering narrow media sensor during warm up. Fuser page count between 200,000 and 299,999.	• If page is not visible from front or rear of the printer, a partial piece of page may be torn off in the fuser covering the narrow media sensor. • The narrow media sensor or flag may be dislodged or damaged.	Check the fuser and area around the fuser assembly for any signs of debris or pieces of paper or media.
202	.24	Exit sensor may have bounced. Fuser page count between 200,000 and 299,999.	Exit sensor assembly	Go to **“Fuser exit sensor service check” on page 2-92**.
202	.26	Page is covering the exit sensor during warm up. Fuser page count between 200,000 and 299,999.	Something is keeping the exit sensor covered. A page may not have been cleared from a prior jam.	Check the fuser and area around the fuser assembly for any signs of debris or pieces of paper or media.

User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
202	.30	Paper jam around the fuser exit or redrive area. Fuser page count between 300,000 and 399,999.	Page may be jammed in fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.
202	.31	Page did not cleanly exit fuser or redrive area. Fuser page count between 300,000 and 399,999.	Page may be jammed in fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.

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User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
202	.32	Exit sensor covered too long. Fuser page count between 300,000 and 399,999.	Page may be jammed in fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.
202	.33	Page is covering the narrow media sensor during warm up. Fuser page count between 300,000 and 399,999.	• If page is not visible from front or rear of the printer, a partial piece of a page may be torn off in the fuser covering the narrow media sensor. • The narrow media sensor or flag may be dislodged or damaged.	Check the fuser and area around the fuser assembly for any signs of debris or pieces of paper or media.
202	.34	Exit sensor may have bounced. Fuser page count between 300,000 and 399,999.	Exit sensor assembly.	Go to **“Fuser exit sensor service check” on page 2-92**.
202	.36	Page is covering the exit sensor during warm up. Fuser page count between 300,000 and 399,999.	Something is keeping the exit sensor covered. A page may not have been cleared from a prior jam.	Check the fuser and area around the fuser assembly for any signs of debris or pieces of paper or media.

User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
202	.40	Paper jam around the fuser exit or redrive area. Fuser page count between 400,000 and 499,999.	Page may be jammed in fuser exit or redrive.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.
202	.41	Page did not cleanly exit fuser or redrive area. Fuser page count between 400,000 and 499,999.	Page may be jammed in fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.

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User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
202	.42	Exit sensor covered too long. Fuser page count between 400,000 and 499,999.	Page may be jammed in fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.
202	.43	Page is covering narrow media sensor during warm up. Fuser page count between 400,000 and 499,999.	• If page is not visible from front or rear of the printer, a partial piece of a page may be torn off in the fuser covering the narrow media sensor. • The narrow media sensor or flag may be dislodged or damaged.	Check the fuser and area around the fuser assembly for any signs of debris or pieces of paper or media.
202	.44	Exit sensor may have bounced. Fuser page count between 400,000 and 499,999.	Exit sensor assembly	Go to **“Fuser exit sensor service check” on page 2-92**.
202	.46	Page is covering the exit sensor during warm up. Fuser page count between 400,000 and 499,999.	Something is keeping the exit sensor in a covered position. A page may not have been cleared from a prior jam.	Check the fuser and area around the fuser assembly for any signs of debris or pieces of paper or media.

User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
202	.50	Paper jam around the fuser exit or redrive area. Fuser page count stopped at 500,000 to preserve data	Page may be jammed in the fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.
202	.51	Page did not cleanly exit fuser or redrive area. Fuser page count stopped at 500,000 to preserve data.	Page may be jammed in fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.

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User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
202	.52	Exit sensor covered too long. Fuser page count stopped at 500,000 to preserve data.	Page may be jammed in fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **“Fuser exit sensor service check” on page 2-92**.
202	.53	Page is covering narrow media sensor during warm up. Fuser page count stopped at 500,000 to preserve data.	• If page is not visible from front or rear of the printer, a partial piece of a page may be torn off in the fuser covering the narrow media sensor. • The narrow media sensor or flag may be dislodged or damaged.	Check the fuser and area around the fuser assembly for any signs of debris or pieces of paper or media.
202	.54	Exit sensor may have bounced. Fuser page count stopped at 500,000 to preserve data.	Exit sensor assembly.	Go to **“Fuser exit sensor service check” on page 2-92**.
202	.56	Page is covering the exit sensor during warm up.Fuser page count stopped at 500,000 to preserve data.	Something is keeping the exit sensor in a covered position. A page may not have been cleared from a prior jam.	Check the fuser and area around the fuser assembly for any signs of debris or pieces of paper or media.

User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
202	.90	Paper jam around the exit or redrive area. Fuser page count is not available.	Page may be jammed in fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **"Fuser exit sensor service check" on page 2-92**.
202	.91	Page did not cleanly exit fuser or redrive area. Fuser page count is not available.	Page may be jammed in the fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **"Fuser exit sensor service check" on page 2-92**.

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User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
202	.92	Exit sensor covered too long. Fuser page count is not available.	Page may be jammed in the fuser exit or redrive area.	• Make sure the redrive door is complete closed. • Check the fuser for any signs of wear or contamination. If any are found, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • Turn media over to reduce +W curl. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check any installed output options(s) that may be installed for correct installation and alignment. • The fuser exit sensor may not be functioning properly. Go to **"Fuser exit sensor service check" on page 2-92**.
202	.93	Page is covering narrow media sensor during warm up. Fuser count is not available.	• If page is not visible from front or rear of the printer, a partial piece of a page may be torn off in the fuser covering the narrow media sensor. • The narrow media sensor or flag may be dislodged or damaged.	Check the fuser and area around the fuser assembly for any signs of debris or pieces of paper or media.
202	.94	Exit sensor may have bounced. Fuser page count is not available.	Exit sensor assembly.	Go to **"Fuser exit sensor service check" on page 2-92**.
202	.96	Page is covering the exit sensor during warm up. Fuser page count is not available.	Something is keeping the exit sensor in a covered position. A page may not have been cleared from a prior jam.	Check the fuser and area around the fuser assembly for any signs of debris or pieces of paper or media.

User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
231	.00	Paper did not arrive at the duplex input sensor but did leave the printer exit sensor.	• Duplex rear door not fully latched. • Printer diverter not functioning correctly. • Duplex feed system not working correctly. • Printer and duplex not aligned.	• Make sure the duplex assembly rear door is properly latched. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check duplex unit for correct installation and alignment to the printer. • If available, try another duplex unit. If none is available, go to **"231.xx Jam displays on the operator panel" on page 2-83**.
232	.00	Paper did not clear the duplex input sensor but did leave the printer exit sensor.	• Duplex rear door not fully latched. • Printer diverter not functioning correctly. • Duplex feed system not working correctly. • Printer and duplex not aligned.	• Make sure the duplex assembly rear door is properly latched. • Check upper redrive diverter and diverter spring for any signs of damage, a loose spring, or binding parts. Repair the redrive as necessary. • Check duplex unit for correct installation and alignment to the printer. • If available, try another duplex option. If none is available, go to **"232.xx Jam displays on the operator panel" on page 2-83**.
233	.00	Paper failed to make duplex doublefeed sensor during turnaround.	• Duplex rear door not fully latched. • Duplex feed system not working correctly.	• Make sure the duplex assembly rear door is properly latched. • If available, try another duplex option. If none is available, go to **"233.xx Jam displayed on operator panel" on page 2-83**.
234	.00	Paper did not arrive at duplex exit sensor.	• Duplex rear door not fully latched. • Duplex feed system not working correctly. • Severely skewed media coming from the printer.	Check the media coming from the printer to the duplex option is not damaged or skewed. If the media is not damaged or skewed, try another duplex option, if available. If not available, replace the duplex option.

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User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
235.	00	Paper reached the duplex exit sensor but another sheet is still detected over the doublefeed sensor.	Double feed separated in duplex.	• Remove the two sheets from the duplex option and see if the duplex fails again. Remove the sheets if it fails again. • Run the duplex Feed 1 and Feed 2 Tests to see if they pass. See **"Duplex Feed 1** and **"Duplex Feed 2" on page 3-12**. If the tests fail after several attempts, replace the duplex option. If the tests pass, retry to feed from the printer through the duplex option. If the problem is still present, replace the duplex option.
236	00	Paper did not leave the duplex exit sensor.	• Duplex jam access tray is not fully latched. • Printer PTO not driving duplex feed rolls. • Duplex feed system not working correctly.	• Make sure the duplex jam access tray is installed correctly • Make sure the power takeoff shaft and spring are correctly installed and operating properly. • Try the duplex option again. If it fails try another duplex option, if available. If another one is not available, replace the duplex option.
237	.00	Paper did not reach the printer input sensor from the duplex unit.	• Duplex jam access tray is not fully latched. • Printer PTO not driving the duplex feed folls.Duplex feed system not working correctly.	• Make sure the duplex jam access tray is installed correctly • Make sure the power takeoff shaft and spring are correctly installed and operating properly. • Try the duplex option again. If it fails try another duplex option, if available. If another one is not available, replace the duplex option.
237	.07	Duplex paper jam. There may be other jams in the paper path.	• Duplex jam access tray is not fully latched. • Printer PTO not driving duplex feed rolls. • Duplex feed system not working correctly.	• Make sure the duplex jam access tray is installed correctly • Make sure the power takeoff shaft and spring are correctly installed and operating properly. • Try the duplex option again. If it fails try another duplex option, if available. If another one is not available, replace the duplex option.

User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
238	.00	Paper is covering one of the duplex sensors during a reset.	• Media left in the duplex and `Continue` selected. • Sensor is having mechanical or electrical problems.	• Remove any sheets from the duplex option. • Try the duplex option again. If it fails, try another duplex option, if available. If one is not available, replace the duplex option.
238	.01	Duplex input sensor covered.	• Media left in the duplex and `Continue` selected. • Sensor is having mechanical or electrical problems.	• Remove any sheets from the duplex option. • Try the duplex option again. If it fails, try another duplex option, if available. If one is not available, replace the duplex option.
238	.02	Duplex exit sensor covered.	• Media left in the duplex and `Continue` selected. • Sensor is having mechanical or electrical problems.	• Remove any sheets from the duplex option. • Try the duplex option again. If it fails, try another duplex option, if available. If one is not available, replace the duplex option.
238	.03	Duplex input and exit sensors covered.	• Media left in the duplex and `Continue` selected. • Sensor is having mechanical or electrical problems.	• Remove any sheets from the duplex option. • Try the duplex option again. If it fails, try another duplex option, if available. If one is not available, replace the duplex option.
238	.04	Duplex doublefeed sensor covered.	• Media left in the duplex and `Continue` selected. • Sensor is having mechanical or electrical problems.	• Remove any sheets from the duplex option. • Try the duplex option again. If it fails, try another duplex option, if available. If one is not available, replace the duplex option.
238	.05	Duplex doublefeed sensor covered.	• Media left in the duplex and `Continue` selected. • Sensor is having mechanical or electrical problems.	• Remove any sheets from the duplex option. • Try the duplex option again. If it fails, try another duplex option, if available. If one is not available, replace the duplex option.
238	.06	Duplex doublefeed and exit sensors covered.	• Media left in the duplex and `Continue` selected. • Sensor is having mechanical or electrical problems.	• Remove any sheets from the duplex option. • Try the duplex option again. If it fails, try another duplex option, if available. If one is not available, replace the duplex option.

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User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
238	.07	Duplex doublefeed, input, and exit sensors are covered.	• Media left in the duplex and `Continue` selected. • Sensor is having mechanical or electrical problems.	• Remove any sheets from the duplex option. • Try the duplex option again. If it fails, try another duplex option, if available. If one is not available, replace the duplex option.
239	.00	Feed error in duplex unit.	• Mechanical feed error due to belt slipping. • Timing error due to feed system.	Replace the duplex option.
239	.01	Jam declared by a smart device. Immediate stop.	• Mechanical feed error due to belt slipping. • Timing error due to feed system.	Replace the duplex option.
239	.02	Jam declared by a smart device. Homing allowed stop.	• Mechanical feed error due to belt slipping. • Timing error due to feed system.	Replace the duplex option.
239	.03	Duplex did not send device Controls response.	• Mechanical feed error due to belt slipping. • Timing error due to feed system.	Replace the duplex option.
239	.04	Duplex did not send Input Device Ready response.	• Mechanical feed error due to belt slipping. • Timing error due to feed system.	Replace the duplex option.
239	.05	Duplex did not send Page In Output Device response.	• Mechanical feed error due to belt slipping. • Timing error due to feed system.	Replace the duplex option.
239	.06	Failed the last page of a staple job.	• Mechanical feed error due to belt slipping. • Timing error due to feed system.	Replace the duplex option.
239	.07	Engine never sent Select OUtput Device to the duplex unit because the page leaving the duplex never sent Select Input Device.	• Mechanical feed error due to belt slipping. • Timing error due to feed system.	Replace the duplex option.
239	.08	Engine never saw Input Source Read on a page to be picked from the duplex unit that is waiting on a page to pass the input sensor.	• Mechanical feed error due to belt slipping. • Timing error due to feed system.	Replace the duplex option.
239	.11	Sheet picked from duplex never made it to the input sensor. Slow or delayed feed from the duplex unit.	• Mechanical feed error due to belt slipping. • Timing error due to feed system. • Input sensor not working correctly.	Check duplex sensor cables for correct installation. If no problem is found with the cables, replace the duplex option.

User attendance messages—paper jams and paper handling errors (2*xx.xx*)

Error code	Sub codes	Description	Possible causes	Action
241	.10	Page was not properly picked from tray 1.	Failure to feed possible causes include: • Edge locking • Worn or contaminated pick tires • Overfilling of tray past the fill line.	Fan media. Turn media over. Reduce amount of media loaded in tray 1. Replace pick tires. **“Integrated tray autocompensator pick roll assembly removal” on page 4-51**.
241	.11	Page was not properly picked from tray 1.	Failure to feed possible causes include: • Edge locking • Worn or contaminated pick tires • Overfilling of tray past the fill line.	Fan media. Turn media over. Reduce amount of media loaded in tray 1. Replace pick tires. **“Integrated tray autocompensator pick roll assembly removal” on page 4-51**.
241	.12	Page was not properly picked from tray 1.	Failure to feed possible causes include: • Edge locking • Worn or contaminated pick tires • Overfilling of tray past the fill line.	Fan media. Turn media over. Reduce amount of media loaded in tray 1. Replace pick tires. **“Integrated tray autocompensator pick roll assembly removal” on page 4-51**.

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Service checks

Anytime the system board is replaced, the Configuration ID must be reset in NVRAM. Go to **“Configuration ID” on page 3-21**.

Review the following information before performing any service checks.

- Paper feed problems (especially paper jams): Go to **“Display Log” on page 3-23** and check the printer event log for indications of repetitive entries that help to isolate a problem to a particular area of the printer or option.
- Paper feed problems with error message: Use the **“Sub error codes for 9xx and 2xx error codes” on page 2-8** to help diagnose the problem.
- Print quality problems: Go to **“Print quality pages (Prt Quality Pgs)” on page 3-6** and print a test page to help diagnose problems before changing any settings or working on the printer.
- Use the resident diagnostics test provided to help isolate a problem before taking the machine apart or removing any options.

5-Bin mailbox service check

Service tip: The majority of the mechanical components can be observed during operation by removing the left and right side covers.

Make sure the option(s) are correctly installed and the machine is configured correctly before attempting to service the unit.

Problems with excessive static electricity buildup

	FRU	Action
1	Front cover assembly	Check the front cover assembly to make sure the ESD brush ground lead is firmly attached to the 5-Bin mailbox frame. Also check to make sure the ESD brush is not loose or damaged.

The printer does not recognize one or more output options as installed

Service tip: If more than a single output option is installed, check each one to see if the printer recognizes any single option as being installed. If the printer recognizes any of the output options then the base printer autoconnect system is operating correctly and the problem is in the unrecognized option. Continue with this service check or go to the service check for the failing output option.

	FRU	Action
1	5-Bin mailbox option	Check the autoconnects, cables, and connectors of the option for any signs of loose or damaged parts.
2	Mechanical linkage assembly	Remove the left and right side covers and check the two autoconnects for damage, especially the connector pins. Remove the output option and check the voltages on the standard output bin autoconnect located on the top left rear of the printer. Go to **“Autoconnect” on page 5-6**. If the voltages are correct, reinstall the output option noting the position of the toroid on the autoconnect cable of the lower autoconnect. Check the voltages on each of the autoconnects. If the toroid was moved, make sure to move it back to its original position on the cable. If the voltages are correct, replace the control board. If the voltages are incorrect, replace the failing autoconnect assembly.

271.xx Paper Jam—Check Bin 1 displays

	FRU	Action
1	Bottom pass thru sensor flag assembly Control board	Check the flag for correct operation, binding, broken parts, or interference from the sensor cable. If incorrect, repair as necessary. If correct, make sure the bottom pass thru sensor is correctly connected to J5 on the control board. Disconnect the pass thru sensor cable and check the voltage at J5-3. The voltage measures approximately +5 V dc. If incorrect, check the voltage at J5-2. The voltage measures approximately 0 V dc. If incorrect, replace the sensor assembly. If this does not fix the problem, replace the control board.

274.xx Paper Jam—Check Bin 4 displays

Service tip: When a 274.xx Paper Jam Check Bin 4 message displays, a problem exists with the top pass thru sensor assembly or the control board.

	FRU	Action
1	Top pass thru sensor flag assembly Control board	Check the flag for correct operation, binding, broken parts or interference from the sensor cable. If incorrect, repair as necessary. If correct check to make sure the top pass thru sensor is correctly connected to J11 on the control board. Disconnect the pass thru sensor cable and check the voltage at J11-3 The voltage measures approximately +5 V dc. If incorrect, check the voltage at J11-2. The voltage measures approximately 0 V dc. If incorrect, replace the sensor assembly. If this does not fix the problem, replace the lower control board.

Ready Bin x Full displays—May be able to clear message and feed paper into bin selected

	FRU	Action
1	Bin *x* sensor Bin *x* sensor cable Bin *x* sensor flag Control board	Check the sensor and sensor cable for the bin that is displaying the message to make sure the sensor is seated correctly in the side of the tray and the cable is connected to the sensor and the control board. Check the flag for binding and proper operation. If correct, replace the bin *x* sensor. If this does not fix the problem, replace the control board. **Note:** This sensor is in a normally open position with the flag out of the sensor slot.

Bin x is Full—message that bin x is full does not display

	FRU	Action
1	Bin *x* sensor Bin *x* sensor cable Bin *x* sensor flag Bin *x* sensor flag Control board	Check the sensor flag for binds, broken or missing parts. If correct, check the bin sensor for correct installation in the side of the tray. If the bin sensor is installed correctly, check the sensor cable for correct installation to the sensor and control board. If correct, replace the bin *x* sensor. If this does not fix the problem, replace the control board.

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`Ready—Bin x Full` displays and paper feeds into bin *x*

	FRU	Action
1	Bin *x* sensor Bin *x* sensor control board	Check the sensor flag for binds. Make sure the sensor flag is not in an up position. If the sensor flag is operating correctly, replace the bin *x* sensor. If this does not fix the problem, replace the control board.

`271.xx Paper Jam - Check Bin 1` displays—paper does not feed into the bin selected

	FRU	Action
1	Deflector Deflector spring Deflector cover Deflector cover spring Shaft assemblies	Check all the bin parts for missing or loose springs, binds in the deflector or deflector cover, broken or binding shaft assemblies, or broken gear teeth. If incorrect, repair as necessary.
2	Bin *x* solenoid assembly Control board	Check the solenoid for any binds. Make sure the solenoid is contacting the latch correctly. If incorrect, repair as necessary. If the solenoid appears to be operating mechanically, check the resistance of the solenoid. It measures between 30 and 50 ohms. If incorrect, replace the failing solenoid assembly. If correct, replace the control board.
3	Mechanical linkage Motor assembly	If the DC motor is functioning properly, check the gears, clutch, and other linkage parts for correct operation and wear, broken gear teeth, or damaged parts. If incorrect, replace the mechanical linkage assembly/DC motor assembly.

990.xx Service Error displays

	FRU	Action
1	Mechanical linkage DC motor assembly	Check the DC motor cable connector to be sure it is correctly installed at J2 on the control board. If correct, disconnect J2 from the control board and check the resistance of the motor on the cable connector. J2-1 to J2-2 measures between 115 and 135 ohms. Also check J2-1 and J2-4 to the motor case for shorts. If either the resistance is incorrect or a short is found, replace the mechanical linkage/DC motor assembly. **Note:** If the DC motor is shorted, it may also be necessary to replace the control board.
2	Control board	Disconnect the motor cable J2 from the control board and check the voltages at J2 on the board. **Warning**: Use caution not to short adjacent pins on the connector as damage to the board could result. **Pin** / **Measured (motor idle)** J2-1 / +24 V dc J2-2 / +24 V dc J2-5 / +5 V dc J2-6 / +5 V dc If any of the voltages are incorrect, replace the control board. If correct, replace the mechanical linkage/ DC motor assembly.

900.xx Error code service check

	FRU	Action
1	Printer POR	Turn the printer off and on several times. If Error Code 900 continues to display, go to step 2.
2	System board	Turn the machine off and on several times, waiting a few minutes between power on and power off. If Error Code 900 continues to display, go to step 3.
3	Factory defaults	Restore factory defaults. See **"Factory Defaults" on page 3-28**. This resets the non-critical areas of the user NVRAM. If Error Code 900 continues to display, go to step 4.
4	Sub error codes	With Error Code 900 displayed, press and . Record the complete list of Sub Error Codes on the display. Check the **"Base printer sub error codes" on page 2-9**. If none of the Sub Error Codes are listed, then call your next level of support or call Lexmark.

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927.xx Fan service check

927.xx can be used for the main fan or the cartridge fan.

- Main fan—927.00, 927.01, and 927.03 through 927.07.
- Cartridge fan—927.02

Main fan

Service tip: The main fan runs at full speed at the end of POR or when the printer is printing. It will only run half speed when the printer is in the Ready state and not printing.

	FRU	Action
1	Main fan	Check the main fan to make sure it is plugged into J4 on the system board. If the fan cable id correctly connected to J4, check the cable and the cable connector for any signs of damage. If damaged, replace the main fan assembly. See **"Main fan removal" on page 4-56**. If undamaged, go to step 2.
2	Main fan	Turn the printer off and check the main fan for any signs of blockage of the fan blades. If there is any sign of blockage, remove the blockage.
3	Main fan blades turn during POR, then stop. Fan will not run when trying to print. Main fan System board	Measure the voltage at J4-1 on the system board. The voltage should measure approximately +2.5 V dc. If incorrect, replace the main fan. See **"Main fan removal" on page 4-56**. If that does not fix the problem, replace the system board. See **"System board and inner shield removal" on page 4-76**.
4	Main fan blades do not turn	Measure the voltage at J4-3. The voltage should measure +14.4 V dc with the fan running full and approximately 7.0 V dc when running half speed. If incorrect, replace the main fan. See **"Main fan removal" on page 4-56**. If this does not fix the problem, replace the system board. See **"System board and inner shield removal" on page 4-76**.

Cartridge fan service check

Error code 927.02 indicates a problem with the cartridge fan.

	FRU	Action
1	Cartridge fan	Check to make sure the cartridge is plugged into J5 on the system board. If properly plugged in, go to step 2.
2	Cartridge fan	Check for any signs of blockage in the fan. If any is found, remove and retry the printer. If no problem is found, go to step 3.
3	Cartridge fan System board	Replace the following FRUs in the order shown: • Cartridge fan. • System board. See **"System board and inner shield removal" on page 4-76**.

950.00 through 950.29 EPROM mismatch failure

Warning: When replacing any one of the following components:

- Operator panel assembly (or upper front cover)
- System board assembly
- Interconnect card assembly

Only replace one component at a time. Replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable.

Warning: Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a printer, it can not be used in another printer. It must be returned to the manufacturer.

This error code indicates a mismatch between the operator panel board and the interconnect card.

	FRU	Action
1	Interconnect card	If the interconnect card been recently replaced, go to step 3. If the card has not been replaced go to step 2.
2	operator panel board	If the operator panel board has been recently replaced, go to step 4. If the operator panel board has not been replaced, contact your next level of support.
3	Interconnect card	Replace the current interconnect card assembly with the original interconnect card assembly. See **“Interconnect card assembly removal” on page 4-53**. If the error remains, go to step 5.
4	operator panel board	Replace the current operator panel board with the original operator panel board. See **“Operator panel board removal” on page 4-66**. If the error persists, go to step 6.
5	Interconnect card	Replace the original interconnect card assembly with a new and not previously installed interconnect card assembly. If the error remains, contact your next level of support.
6	Operator panel	Replace the original operator panel board with a new and not previously installed interconnect card assembly. If the error remains, contact your next level of support.

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950.30 through 950.60 EPROM mismatch failure

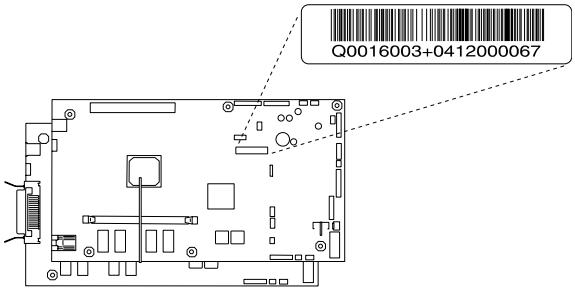
Warning: When replacing any one of the following components:

- Operator panel assembly (or upper front cover)
- System board assembly
- Interconnect card assembly

Only replace one component at a time. Replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable.

Warning: Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a printer, it can not be used in another printer. It must be returned to the manufacturer.

Note: Before proceeding with this service check, make sure you have the correct system board installed in the printer. The system board has a label with an board ID and barcode. Use the first eight numbers to identify the board with the part number in the table below:



Model	Board bar code	Corresponds to P/N...
4061-000 (non-network)	Q0016021	40X0140
4061-010 (network)	Q0016001	40X0141
4061-200 (non-network)	Q0016022	40X0142
4061-210 (network)	Q0016002	40X0143
4061-400 (non-network)	Q0016023	40X0144
4061-410 (network)	Q0016003	40X0145

This error code indicates a mismatch between the system board and the interconnect card.

	FRU	Action
1	Interconnect card assembly	If the interconnect card assembly has been recently replaced, go to step 3. If the interconnect card assembly has not been recently replaced, contact the next level of support.
2	System board	If the system board has been recently replaced, go to step 4. If the system board has not been replaced, contact the next level of support.
3	Interconnect card assembly	Replace the current interconnect card assembly with the original interconnect card assembly. **"Interconnect card assembly removal" on page 4-53**. If the error remains, go to step 5.

	FRU	Action
4	System board	Replace the current system board with the original system board. See **"System board and inner shield removal" on page 4-76**. If the error remains, go to step 6.
5	Interconnect card assembly	Replace the original interconnect card assembly with a new and not previously installed interconnect card assembly. If the problem remains, contact the next level of support.
6	System board	Replace the original system board with a new and not previously installed system board. If the problem remains, contact the next level of support.

Charge roll service check

Service tip: Close and evenly spaced repetitive marks 47.19 mm (1.86 in.) apart, or spots on the page can be caused by a damaged or contaminated dual charge roll.

Service tip: Make sure the right charge roll arm bushing is correctly installed and operates correctly.

To remove the charge roll:

1. Wrap a piece of plain white paper around the charge roll to prevent contamination or damage.
2. Carefully remove the roll by pressing outward and to the right on the charge roll link arm and remove the charge roll from the right side charge roll bearing.
3. Remove the charge roll from the left side charge roll bearing and remove the roll from the printer. Leave the paper wrapped around the charge roll until it is reinstalled.

	FRU	Action
1	Charge roll assembly	Check the charge roll for correct installation, toner buildup, marks, cuts, or other signs of contamination or damage. Replace as necessary.
2	Left side charge roll link	Check the left side charge roll link assembly for correct assembly operation. Check for damage to the arm or bearing assembly.
3	Right side charge roll link Right charge roll bushing	Check the right side charge roll link assembly for correct assembly operation. If incorrect, replace the charge roll link assembly with the charge roll link assembly kit. If correct, check the right charge roll link assembly bearing for signs of wear or contamination. Excessive contamination could cause intermittent charging of the charge roll. If incorrect, replace the link assembly. Check for continuity of the right link assembly from the bearing to the charge roll high voltage contact on the right side frame. If incorrect, replace the link assembly. Make sure the charge roll bushing is installed and operating correctly. **Note:** The screw that attaches the charge roll lead to the contact must be secure.

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Cover closed switch/cable service check

	FRU	Action
1	Toner cartridge	Make sure the toner cartridge is correctly installed and that the right and left cartridge tracks are not loose or broken. Make sure the cover closed switch activation tab on the toner cartridge is not broken and that the tab correctly activates the cover closed switch spring.
2	Cover closed switch/cable assembly	Check the cover closed switch for proper mechanical operation. If incorrect, repair as necessary. Disconnect the cover closed switch cable from J8 at the system board and measure the voltage at J8-3. It measures approximately +5 V dc. If the voltage is incorrect, replace the system board. If the voltage is correct, check the voltage at J8-1. If the voltage measures greater than +1.0 V dc, replace the system board. If the voltage is correct, check the continuity between J8-1 and J8-3 on the cable. If no change in continuity occurs as the switch is activated, replace the cover open switch/cable assembly. If the continuity changes as the switch is activated, replace the system board.

Cover closed switch table

J8	Switch status	
Pin number	**Cover open**	**Cover closed**
Pin 1-3	Open	Closed
Pin 1-2	Closed	Open

Dead machine service check

A dead machine is a condition where the display is blank, the LED on the operator panel is off, no fans turn, no motors turn, and the fuser lamp does not come on.

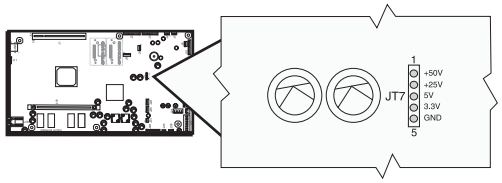
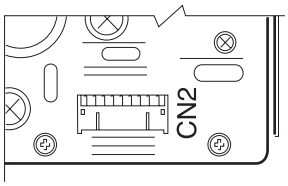
If a high-capacity input tray is installed, remove the option and check the base printer for correct operation. If the base printer operates correctly, go to **“High-capacity feeder input tray service check” on page 2-95**. If the base printer continues to not operate correctly, remove any other attached paper handling options.

Warning: Observe all necessary ESD precautions when removing and handling the system board or any installed option cards or assemblies. See **“Handling ESD-sensitive parts” on page 4-1**.

CAUTION: When you see this symbol, there is a danger from hazardous voltage in the area of the printer where you are working. Unplug the printer before you begin, or use caution if the printer must receive power in order to perform the task.

Remove any input and output paper handling options from the printer.

	FRU	Action
1	Line voltage	Check the AC line voltage. If the line voltage is incorrect, inform the customer.
2	AC line cord	Unplug the line cord from the wall outlet and check the line cord for damage, such as, a damaged plug, or cut or damaged cord. If incorrect, replace the cord. If incorrect, check the continuity of the line cord and replace if necessary. If the cord is correct, go to step 3.

	FRU	Action
3	+5 V dc test point on the system board	Check for approximately +5 V dc at the +5 V test point on the system board. **Note:** Use care not to short adjacent voltage test points.  If the voltage is correct, replace the system board assembly. If the voltage is incorrect, go to step 4.
4	System board	Check to make sure the LVPS cable is correctly installed at J27 on the system board. If not, reseat and recheck the voltage at the +5 V dc test point on the system board. If test point does not measure +5 V dc, go to step 5.
5	LVPS	Unplug the AC line cord from the LVPS and disconnect the LVPS cable to the system board. Reconnect the AC line cord and measure the voltage on CN2-1 on the LVPS. The voltage should measure approximately +5 V dc.  If the voltage is correct, go to step 6. If the voltage is incorrect, replace the LVPS assembly. See **“Low voltage power supply removal” on page 4-54**
6	Features or option installed on the interconnect card assembly	**Warning:** Observe all the ESD precautions and turn the printer off before any feature or option cards are removed or replaced. Remove one option/feature at a time to help isolate the failing part. Replace the faulty part.
7	LVPS fuse F1 (primary power)	Unplug the AC line cord, remove the LVPS from the printer, and check the continuity of fuse F1. See **“Low voltage power supply removal” on page 4-54**. If continuity is correct, replace the LVPS assembly. If the voltage is incorrect, replace the LVPS assembly.
8	Loads connected to the system board	Turn the printer off and disconnect each cable connected to the system board and each option installed on the system board until the problem is located. **Warning**: When removing any card installed on the system board observe all ESD precautions when handling these options.

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Duplex option service check

Messages displayed when a 23x Duplex Paper Jam displays.

23x Paper Jam Check Duplex	Leave Job in Finisher
Primary message	Secondary message

If sheets have been accumulated to be stapled or offset when the jam is detected, the printer alternately flashes the primary and secondary messages to indicate that all accumulated sheets should not be removed during the jam clearance procedure. Obviously, if no sheets have accumulated for stapling, then no message flashing occurs and the primary message is used.

When the secondary message is posted, if accumulated sheets are removed during jam clearance, the printer does not reprint the removed sheets. Furthermore, after the printer resumes printing and the print job is completed, the portion of the job printed after the jam is not stapled.

Duplex paper jams

23x.xx jam code	Jam location
231.xx	Media did not arrive at the duplex input sensor, but did leave the fuser exit sensor.
232.xx	Media did not clear the duplex input sensor, but did leave the printer fuser exit sensor.
233.xx	Media failed to make the duplex double feed sensor during turnaround.
234.xx	Media did not arrive at the duplex exit sensor.
235.xx	A piece of media is over the duplex double feed sensor.
236.xx	Media did not leave the duplex exit sensor.
237.xx	A duplexed sheet did not reach the printer input sensor.
238.xx r	A piece of media is over the duplex sensors during a reset.

Duplex does not recognize that the option is installed, or other options below the duplex are installed

	FRU	Action
1	Autoconnect cables/ connections	Check the top and bottom autoconnect connectors for signs of damage. If damaged, replace the duplex option. If not damaged, check the cables are correctly connected to the duplex system board at J9, J10, J11, and J12. If no problem is found, replace the duplex option.

Note: Before proceeding with the following service checks, verify the media used in the duplex option meets specification and is not dog-eared or damaged in any way. See **“Media specifications” on page 1-8**.

231.xx Jam displays on the operator panel

	FRU	Action
1	Fuser exit sensor	Check the sheet of media is leaving the exit sensor in the fuser and feeding properly into the duplex option. Check the duplex link for correct operation and any signs of damage. If the problem is prior to the duplex input sensor and in the base machine, repair as necessary. If the jam occurs in the duplex option prior to the duplex input sensor, go to step 2.
2	Duplex input sensor	If the paper does not reach the duplex input sensor, make sure the sensor is connected to the duplex system board. If correct, check for any paper or other objects that might cause a paper jam. If none are found, replace the duplex option assembly.

232.xx Jam displays on the operator panel

	FRU	Action
1	Duplex input sensor	If the paper reaches the duplex input sensor, but does not clear the sensor, make sure the sensor is connected to the duplex system board. If connected correctly, check for correct operation of the sensor. If a problem is found and cannot be corrected, replace the duplex option assembly. If no problem is found, check for a piece of paper or other object in the paper path that might cause a paper jam over the input sensor. If no problem is found, replace the duplex option assembly.

233.xx Jam displayed on operator panel

	FRU	Action
1	Duplex double feed sensor	If a sheet of paper fails to reach the double feed sensor during turnaround, check for any signs of paper or other objects that might cause the paper to jam. If no problem is found, replace the duplex option assembly.

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Envelope feeder service check

Service tip: Check the envelope feeder paper path for any debris, pieces of envelope and so on. If any other options are installed make sure they are operating normally. If only the envelope feeder is failing to operate correctly, continue with this service check, otherwise verify the interconnect card is functioning properly.

Service tip: The envelope feeder receives its +5 V dc operating voltage from the +24 V dc bulk at J1-7. If +24 V dc is not present at J1-7, tray 1 is the only tray that is recognized.

Note: If a 260 Paper Jam Check Envelope message displays, check the **"Sub error codes for 9xx and 2xx error codes" on page 2-8**.

Printer does not recognize the envelope feeder as an attached input option

	FRU	Action
1	Envelope feeder	Make sure the envelope feeder is correctly installed and mated to the autoconnect at the front of the printer.
2	Front autoconnect on printer	Check the connector for signs of damage to the connector or contacts. If you find damage, replace the damaged cable/connector assembly. Remove the envelope feeder and check the voltages at the autoconnect on the front of the printer. If incorrect, check the interconnect card. If correct, reinstall the envelope feeder and continue with step 3.
3	Autoconnect on the envelope feeder	Check for damage to the connector or contacts. If you find damage, replace the damaged cable/connector assembly. Disconnect the autoconnect cable at J1 on the envelope system board and measure the following voltages: • J1-3 measures +5 V dc • J1-5 measures +5 V dc • J1-7 measures +24 V dc If any of the voltages are incorrect, replace the autoconnect cable/ connector. If the voltages are correct, replace the envelope system board.

Operator panel displays `260.xx Paper Jam` immediately when envelope feed is requested—POST incomplete

	FRU	Action
1	Pass thru sensor	Check for any debris or pieces of envelope over the pass thru sensor. Check for correct installation of the pass thru sensor flag. Make sure the sensor cable is attached to the envelope system board. Perform an envelope feeder sensor test to check both the sensor and sensor flag. **Note:** It may be necessary to use a small tool to actuate the sensor flag because it is located under the front cover. Be careful not to damage the flag. If the test fails, check the flag for damage or binds. If incorrect, replace the flag. If the flag is operating correctly, check the voltage at J3-3. The voltage measures approximately +5 V dc. If incorrect, replace the envelope system board. If correct, check the voltage at J3-2. The voltage changes from 0 to +5 V dc when the flag is moved in and out of the sensor. If incorrect, replace the sensor assembly. If this does not fix the problem, replace the envelope system board.

Operator panel displays `260.xx Paper Jam` after attempted feed but before envelopes are put in the hopper OR the operator panel continues to display `Load Envelopes` after envelopes are placed in the hopper

Service tip: The kick rolls rotate during the attempted feed cycles.

	FRU	Action
1	Envelope out hopper sensor flag	Check the envelope out sensor flag for damage, correct installation and operation. If incorrect, repair or replace the envelope feeder option.

990.xx Service Error, envelopes fail to feed from the hopper

	FRU	Action
1	DC feed motor assembly	Check the motor and motor cable for loose wires or poor connections. Make sure the motor cable is connected to the envelope system board. If correct, replace the envelope feeder option.

`260.xx Paper Jam` displays, unable to clear and envelopes fail to feed from the hopper—Kick rolls are not rotating

	FRU	Action
1	Clutch latch assembly	Check the clutch latch assembly to make sure it moves freely. If correct, replace the envelope feeder option.

`260.xx Paper Jam` displays, unable to clear and envelopes fail to feed from the hopper Kick rolls are rotating.

Check the deflector gap adjustment before continuing this service check.

	FRU	Action
1	Deflector gap adjustment	Check the deflector gap adjustment. The adjustment may be too narrow.
2	Weight assembly	Check the weight assembly to make sure it moves up and down freely without any binds. Make sure the weight assembly rests on all the rear kick rollers when the hopper is empty. If the weight assembly is damaged or does not operate properly, replace the envelope feeder assembly.
3	Envelope edge guide	Check the envelope edge guide to make sure it is not warped or set too close to the envelopes in the hopper. If the edge guide is damaged or does not operate properly, replace the envelope feeder option.

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260.xx Paper Jam displays, envelope stops in feeder paper path

	FRU	Action
1	Kick rolls/feed rolls/drive rolls	Check all the rolls for oil, grease, or other contamination. If you find a problem, clean the rolls. If this does not correct the problem, replace the envelope feeder.
2	Deflector gap adjustment	Check the deflector gap adjustment. The adjustment may be too narrow. If the adjustment is correct, replace the envelope feeder option.

Envelope feeder multifeeds or may not display a 260.xx Paper Jam message

	FRU	Action
1	Envelopes	Check the envelopes being used in the feeder. Check for signs of the envelopes being stuck together or signs of glue. Make sure the flaps are not interleaved. If the envelopes meet the guidelines and are properly loaded, go to step 2.
2	Deflector	Check the deflector gap adjustment. The adjustment may be too wide. If the deflector gap adjustment is correct, go to step 3. If not, replace the envelope feeder option.
3	Restraint roll bias spring	Check for a missing, broken or incorrectly installed restraint roll bias spring. If incorrect, replace the envelope feeder option.

260.xx Paper Jam displays, an envelope stopped in the paper path of the feeder and an envelope also stopped in the base printer paper path

	FRU	Action
1	Latch lever	Make sure the tip of the latch lever is centered in the opening in the floor of the paper path. The latch lever may not be detented on the latch. If no problem is found and the problem persists, replace the envelope feeder option.

Fuser service checks

920.xx—Cold fuser service check

Error codes 920.x and 922.xx may display for a cold fuser failure.

Some 920.xx error codes may be cleared by turning the printer on and off and allowing it to complete POR.

CAUTION: There is a danger from hazardous voltage in the area of the printer where you are working. Unplug the printer before you begin, or use caution if the printer must receive power in order to perform the task.

Service tip: Some 920.xx errors can be caused by multiple sheets of paper being fed up to the fuser.

Service tip: Set the Fuser Temperature to NORMAL before starting this service check. In Diagnostics mode, select **EP SETUP**, and **Fuser Temp**.

Service tip: It may take several minutes for the error codes 920.xx and 922.xx to be displayed after the printer is turned on.

	FRU	Action
1	Fuser lamp Fuser lamp AC cable	Observe the lamp through the left near side of the printer. It may be necessary to remove the redrive assembly to observe the lamp turning on and off. If the lamp does not come on do the following: • If not previously removed, remove the redrive assembly. See **"Redrive assembly removal" on page 4-74**. • Remove the fuser assembly. See **"Fuser assembly removal" on page 4-26**. • Make sure the correct type of lamp is installed (voltage and wattage). • Verify that the fuser to fuser lamp cable is installed correctly to the fuser top cover assembly. If incorrect, install correctly; if correct, go to step 2.
2	AC line voltage 	**CAUTION**: When taking measurements for AC power, observe all safety precautions. Check the AC line voltage to make sure it is within operating specification. If incorrect, inform the customer; if correct, go to step 3.
3	LVPS 	**CAUTION**: When taking measurements for AC power, observe all safety precautions. Unplug the AC line cord from the printer and pull the LVPS out far enough to access CN1 on the LVPS board (see **"Low voltage power supply removal" on page 4-54**). Disconnect the LVPS to fuser AC cable, plug in the line cord, turn the printer on and measure the voltage between CN1-1 and CN1-3 on the connector (see the connector locations at **"Low voltage power supply" on page 5-10**). If incorrect, replace the LVPS assembly (see **"Low voltage power supply removal" on page 4-54**); if correct, go to step 4.
4	Fuser lamp Fuser top cover assembly Fuser connect cable (fuser to fuser lamp cable)	Check continuity of the fuser to fuser AC cable, fuser top cover assembly, and fuser lamp by checking the continuity between the two pins on the fuser lamp AC cable connector: • If there is continuity, go to step 5. • If there is no continuity, check the continuity of the fuser to fuser lamp AC cable. If incorrect, replace the lamp, if incorrect, replace the fuser top cover assembly. **Note:** If the fuser lamp is replaced, allow the fuser assembly to cool or a 925.xx error may be displayed.

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	FRU	Action
5	LVPS LVPS to fuser AC cable 	**CAUTION**: When taking measurements for AC power, observe all safety precautions. Check the AC line voltage between the pins on the fuser end of the LPVS to fuser AC cable. If the voltage is correct, unplug the AC power cord from the LVPS cable. If the voltage is correct, unplug the AC power cord from the LVPS, pull the LVPS out far enough to be able to check the voltage between CN-1 and CN1-3 on the LVPS board. Plug in the power cord, turn the printer on and check the voltage. If correct, replace the LVPS to fuser AC cable; if incorrect, replace the LVPS assembly. **Note:** If the fuses in the LVPS are blown, the LVPS assembly must be replaced.
6	Fuser top cover assembly (thermistor, thermistor cable) Fuser to system board DC cable	Check to make sure that the thermistor is installed correctly to J5 on the fuser control card. If installed correctly check the cable for any signs of damage. If any problems are found, replace the fuser top cover assembly. If no problem is found, check the fuser to system board DC cable for correct installation at J1 on the fuser control card. If no problem is found, check the fuser to system board cable for correct installation at J10 on the system board.
7	`Error code 920.06` displayed LVPS System board System board to LVPS cable	Carefully check the installation of the LVPS to system board cable to J27 on the system board and to CN2 on the LVPS. If the cable is not seated or installed properly, reseat the cable and retry the printer. If the cable is installed correctly, replace the following FRUs in the order shown: • LVPS assembly. See **“Low voltage power supply removal” on page 4-54**. • System board assembly. See **“System board and inner shield removal” on page 4-76**. • LVPS to system board cable.
8	Fuser assembly	If no problem is found up to this point, then replace the following in the order shown: • Fuser assembly. See **“Fuser assembly removal” on page 4-26**. • System board assembly. See **“System board and inner shield removal” on page 4-76**. • LVPS. See **“Low voltage power supply removal” on page 4-54**.

922.xx—Cold fuser check

Error codes 920.xx and 922.xx may display for a cold fuser failure.

Some 920.xx error codes may be cleared by turning the printer on and off and allowing it to complete POR.

CAUTION: There is a danger from hazardous voltage in the area of the printer where you are working. Unplug the printer before you begin, or use caution if the printer must receive power in order to perform the task.

Service tip: Set the Fuser Temperature to NORMAL before starting this service check. In Diagnostics mode, select **EP SETUP**, and **Fuser Temp**.

	FRU	Action
1	Fuser lamp	Remove the fuser assembly and check to make sure the correct fuser lamp has been installed. If the correct lamp has been installed, go to step 2. **Note:** If the fuser lamp is replaced, allow the fuser assembly to cool or a 925.xx error code could be displayed.
2	AC line voltage 	**CAUTION**: When taking measurements for AC power, observe all safety precautions. Check the AC line voltage to make sure it is within operating specification. If incorrect, inform the customer; if correct, go to step 3.
3	LVPS 	**CAUTION**: When taking measurements for AC power, observe all safety precautions. Unplug the AC line cord from the printer and pull the LVPS out far enough to access CN1 on the LVPS board (see **"Low voltage power supply removal" on page 4-54**). Disconnect the LVPS to fuser AC cable, plug in the line cord, turn the printer on and measure the voltage between CN1-1 and CN1-3 on the connector (see the connector locations at **"Low voltage power supply removal" on page 4-54**). If incorrect, replace the LVPS assembly (see **"Low voltage power supply removal" on page 4-54**); if correct, go to step 4.
4	LVPS LVPS fuser AC cable 	**CAUTION**: When taking measurements for AC power, observe all safety precautions. Disconnect the AC line cord from the printer. Disconnect the LVPS to fuser cable from the fuser to fuser lamp cable. Plug the AC line cord into the printer and check the AC line voltage between the pins on the fuser end of the LVPS to fuser AC cable. If the voltage is correct, unplug the AC power cord from the LVPS cable and pull the LVPS out far enough to be able to check the voltage between CN-1 and CN-3 on the LVPS board. Plug in the power cord, turn the printer on and check the voltage. If correct, replace the LVPS to fuser AC cable; if incorrect, replace the LVPS assembly. See **"Low voltage power supply removal" on page 4-54**. **Note:** If the fuses in the LVPS are blown, the LVPS assembly must be replaced.
5	Fuser top cover assembly (thermistor, thermistor cable) Fuser to system board DC cable	Check to make sure that the thermistor is installed correctly to J5 on the fuser control card. If installed correctly check the cable for any signs of damage. If any problems are found, replace the fuser top cover assembly.**"Fuser narrow media sensor removal" on page 4-34**. If no problem is found, check the fuser to system board DC cable for correct installation at J1 on the fuser control card. If no problem is found, check the fuser to system board cable for correct installation at J10 on the system board. If no problem is found, go to step 6.

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	FRU	Action
6	Fuser assembly	If no problem is found up to this point, then replace the following in the order shown: • Fuser assembly. See **"Fuser assembly removal" on page 4-26**. • System board assembly. See **"System board and inner shield removal" on page 4-76**. • LVPS. See **"Low voltage power supply removal" on page 4-54**.

923.xx—Hot fuser service check

Error Code 923.xx, 924.xx, and 925.xx may display for a hot fuser failure.

CAUTION: .The fuser may be hot, use caution before removing or servicing.

CAUTION: There is a danger from hazardous voltage in the area of the printer where you are working. Unplug the printer before you begin, or use caution if the printer must receive power in order to perform the task.

Service tip: Set the Fuser Temperature to NORMAL before starting this service check. In Diagnostics mode, In Diagnostics mode, select **EP SETUP**, and **Fuser Temp**.

	FRU	Action
1	Fuser assembly	Check for any signs of overheating in the fuser assembly. Check the hot roll, hot roll bearings, and the area around the thermistor for any signs of excessive heat. If a problem is found, replace the thermistor. If no problem is found, go to step 2.
2	Fuser top cover assembly (thermistor)	Turn the printer off and disconnect the fuser to system board cable from J10 on the system board. Check the resistance between pins J10-3 and J10-4. The resistance should be greater than 100K ohms. If correct, go to step 3; if incorrect, disconnect the thermistor cable from J5 on the fuser board and measure the resistance between the two pins on the thermistor cable. If incorrect, replace the fuser top cover assembly (see **"Fuser narrow media sensor removal" on page 4-34**); if correct, replace the fuser to system board cable.
3	System board Fuser top cover assembly	Check the voltage on J10-3 ground on the system board. The voltage should measure approximately +3.3 V dc. If the voltage is correct, replace the fuser top cover assembly. See **"Fuser narrow media sensor removal" on page 4-34**. If incorrect, replace the system board. See **"System board and inner shield removal" on page 4-76**.

924.xx—Hot fuser service check

Error Code 923.xx, 924.xx, and 925.xx may display for a hot fuser failure.

CAUTION: .The fuser may be hot, use caution before removing or servicing.

CAUTION: There is a danger from hazardous voltage in the area of the printer where you are working. Unplug the printer before you begin, or use caution if the printer must receive power in order to perform the task.

Service tip: Set the Fuser Temperature to NORMAL before starting this service check. In Diagnostics mode, In Diagnostics mode, select **EP SETUP**, and **Fuser Temp**.

	FRU	Action
1	Fuser assembly Fuser to system board cable	Check the thermistor cable for correct installation to J5 on the fuser card. If installed correctly, check for correct installation of J10 on the system board. If all cables are installed correctly, go to step 2.
2	Fuser top cover assembly (thermistor/thermistor cable assembly)	Turn the printer off and disconnect the thermistor cable from J5 on the fuser board. Measure the resistance between the two pins on the thermistor cable, if the resistance measures infinity (open circuit), replace the fuser top cover assembly.
3	Fuser to system board cable. System board Fuser assembly	Reconnect the thermistor cable to J5 on the fuser board. Disconnect the fuser to system board cable from J10 on the system board and measure the resistance between J10-3 and J10-4 on the cable. If the resistance measures infinity (open circuit) check the continuity of pins 3 and 4 of the cable. If correct, replace the fuser assembly. See **“Fuser assembly removal” on page 4-26**. If incorrect, replace the fuser to system board cable. **Note:** If the error code still displays, replace the system board. See **“System board and inner shield removal” on page 4-76**.

925.xx—Hot fuser service check

Error Code 923.xx, 924.xx, and 925.xx may display for a hot fuser failure.

CAUTION: .The fuser may be hot, use caution before removing or servicing.

CAUTION: There is a danger from hazardous voltage in the area of the printer where you are working. Unplug the printer before you begin, or use caution if the printer must receive power in order to perform the task.

Service tip: Set the Fuser Temperature to NORMAL before starting this service check. In Diagnostics mode, In Diagnostics mode, select **EP SETUP**, and **Fuser Temp**.

	FRU	Action
1	Fuser lamp	If the fuser is 220 V machine a 115 V fuser may be installed. If the printer is not a 115 V model, then go to step 2. If the printer is a 220 V model, then check to make sure that the correct lamp is installed. **Note:** If the fuser lamp is replaced, allow the fuser to cool or a 925.xx error could be displayed.
2	AC power source	Check the AC power source to make sure it meets specifications. If the AC power source does not meet specifications, inform the customer. If it meets specifications, go to step 3.

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	FRU	Action
3	Fuser lamp	Turn the printer off and allow the fuser assembly to cool. After the fuser assembly cools down, turn the printer on. If you receive the same error code, replace the fuser lamp. See **"Fuser lamp removal" on page 4-32**. **Note:** If the fuser lamp is replaced, allow the fuser to cool or a 925.xx error could be displayed.

Fuser exit sensor service check

If any of the following codes are displayed, there is a potential problem in the area of the exit sensor: 201.00, 201.02, 201.10, 201.12, 201.22, 201.30, 201.32, 201.40, 201.41, 201.42, 201.50, 201.52, 201.92, 202.00, 202.02, 202.04, 202.10, 202.11, 202.12, 202.14, 202.20, 202.21, 202,22, 202.24. 202.30, 202.31, 202.32, 202.34, 202.40, 202.41, 202.42, 202.44, 202,50, 202.51, 202.52, 202.54, 202.90, 202.91, 202.92, and 202.94.

Fuser exit and fuser narrow media sensor status chart

Printer not printing— no media over sensors	Printer printing—media over sensor(s), non-narrow media fed through the printer	Printer printing—narrow media fed through the printer
Exit sensor open	Exit sensor closed	Exit sensor closed
Narrow media sensor open	Narrow media sensor closed	Narrow media sensor open

	FRU	Action
1	Fuser exit sensor (exit sensor test)	Enter the Diagnostic mode, select **BASE SENSOR TEST**, select the **Exit Sensor** to test for proper operation. If the exit sensor fails the test, go to step 2. If the exit sensor passes, go to step 5.
2	Fuser exit sensor cable	Check the fuser exit sensor cable for correct installation or for any signs of damage to the cable or connectors. If no problem is found, go to step 3. If a problem with the installation is found, install the cable correctly. If damage to the cable or connectors is found, replace the cable.
3	Fuser exit sensor flag	Make sure the sensor flag is not binding and is operating properly. If the sensor is operating properly, go to step 4. If it is not operating properly, repair or replace the sensor assembly. See **"Fuser exit sensor removal" on page 4-28**.
4	Fuser assembly Fuser exit sensor cable Fuser board Fuser to system board cable System board	Check the continuity of the fuser exit sensor cable. If incorrect, replace the cable; if correct check the continuity of the fuser to system board cable. If incorrect, replace the cable; in correct, replace the following FRUs in the order shown: • Fuser board. • Fuser assembly. See **"Fuser assembly removal" on page 4-26**. • System board. See **"System board and inner shield removal" on page 4-76**.
5		With the redrive assembly removed from the printer, enter the Diagnostics mode and run the print test from tray 1 (for example, select **PRINT TESTS**, **Tray 1**, and **Continuous**) and observe the media as it passes over the exit and narrow media sensors. Check that the sensor flags are operating correctly. If the sensor flags and hardware are operating incorrectly, repair or replace the failing sensor assembly. If no problem is found, check the fuser for any signs of media in the fuser or any signs of toner or other contamination. If a problem is found, clean or remove the debris or contamination.

Fuser narrow media sensor service check

If any of the following error codes are displayed, a problem may exist in the area of the narrow media sensor assembly: 201.04, 201.14, 201.24, 201.34, 201.44, 201.54, and 201.94.

Fuser exit and fuser narrow media sensor status check

Printer not printing— no media over sensors	Printer printing—media over sensor(s), non-narrow media fed through the printer	Printer printing—narrow media fed through the printer
Exit sensor open	Exit sensor closed	Exit sensor closed
Narrow media sensor open	Narrow media sensor closed	Narrow media sensor open

	FRU	Action
1	Fuser narrow media sensor (sensor test)	Enter the Diagnostics mode, select **BASE SENSOR TEST**, and select the **NM Sensor** to test it for proper operation. If the narrow media sensor fails the test, go to step 2; if the narrow media sensor does not pass the test, go to step 5.
2	Fuser narrow media sensor cable	Check the fuser narrow media sensor cable for correct installation or any signs of damage to the cable or to the connectors. If no problem is found, go to step 3;. If a problem with the installation is found, install the cable correctly. If damage to the cable or the connectors is found, replace the cable.
3	Fuser narrow media sensor flag	Make sure the sensor flag is not binding and is operating properly. If the sensor is operating properly, go to step 4. If the sensor is not operation properly, repair or replace the sensor assembly. See **“Fuser narrow media sensor removal” on page 4-34**.
4	Fuser assembly Fuser narrow media sensor cable Fuser board Fuser to system board cable System board	Check the continuity of the fuser narrow media sensor cable. If incorrect, replace the cable; if correct, check the continuity of the fuser to system board cable. If incorrect, replace the cable; if correct, replace the following FRUs in the order shown: • Fuser board • Fuser assembly. See **“Fuser assembly removal” on page 4-26**. • System board. See **“System board and inner shield removal” on page 4-76**.
5		With the redrive assembly removed from the printer, enter Diagnostics mode and run the printer test from tray 1 and observe the media as it passes over the exit sensor. Check to see that the sensor flag is operating correctly. If the sensor flag and hardware are operating incorrectly, repair or replace the failing sensor assembly. If no problem is found, check the fuser for any signs of media in the fuser or any signs of toner or other contamination. If a problem is found, clean or remove the debris or contamination.

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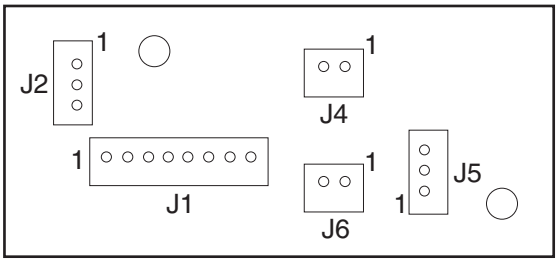
Fuser solenoid service check

CAUTION: There is a danger from hazardous voltage in the area of the printer where you are working. Unplug the printer before you begin, or use caution if the printer must receive power in order to perform the task.

Service tip: Try changing the envelope enhance level setting. A different setting may correct the problem.

Note: Check the fuser envelope conditioner solenoid adjustment as described in the adjustment section **"Fuser solenoid adjustment" on page 4-2**.

	FRU	Action
1	Fuser envelope conditioner solenoid	Observe the operation of the fuser solenoid by removing the redrive assembly. Check for proper mechanical operation of the solenoid and associated hardware, link, and so on. If correct, check the resistance of the solenoid between J4-1 and J4-2 on the fuser control board.  The resistance measures between 5 ohms and 10 ohms. If incorrect, replace the fuser assembly. If correct, go to step 2.
2	System board	Measure the voltage at the +50 V dc test point on the system board. The voltage should measure approximately +50 V dc. If incorrect, go to step 3. If incorrect, go to step 4.
3	LVPS	Measure the voltage at CN2-18 on the LVPS. The voltage should measure approximately +50 V dc. If incorrect, replace the LVPS assembly. If correct, replace the system board. If this does not fix the problem, replace the interconnect card assembly.
4	Fuser board to system board cable	Make sure the cable is connected properly to the system board and fuser control board. Reconnect the cable, if necessary. If the cable is connected correctly, go to step 5.
5	Fuser assembly	If no problems were found in steps 1 through 4, replace the fuser assembly. See **"Fuser assembly removal" on page 4-26**.

High-capacity feeder input tray service check

Note: Voltage measurements in the high-capacity feeder input tray service checks must be made with the high-capacity feeder attached to the base printer to obtain accurate results.

Service tip: Be sure the paper size switch is set to the correct paper size setting and the rear paper guides are in the correct locations for the size of paper installed in the high-capacity feeder tray.

Service tip: Check the other paper sources to be sure they are operating correctly.

The base printer indicates a dead machine condition when the high-capacity input tray is installed

	FRU	Action
1	AC line cord AC jumper (HCIT to printer) AC input and output receptacles AC wiring harness 	If the base printer works normally using the AC line cord from the AC wall outlet and does not work when using the AC jumper from the HCIT, check the AC jumper cord. If defective, replace the cord. If not defective, check the AC input and output receptacles and wiring harness in the HCIT. Repair or replace the receptacles or AC wiring harness as required. **Note:** Make sure the ground wire is installed correctly from the AC wiring harness to the frame of the HCIT and the nut and lock washer are tightened.

The base printer does not recognize that the high-capacity input tray is installed

	FRU	Action
1	high-capacity feeder autoconnect mechanical check	Check the high-capacity feeder input tray to make sure it is mounted correctly and is not pushed down into the frame assembly or damaged. Be sure the high-capacity feeder input tray autoconnect is properly connected to the high-capacity feeder tray option board assembly.
2	Base printer or option mounted above	Check the option or base printer autoconnect for signs of damage. Repair the high-capacity option autoconnect as necessary.
3	LVPS Option system board 	Check the voltages at J11-2 and J11-4. The voltage measures +24 V dc, If the voltage is correct, replace the high-capacity system board assembly. If the voltage is incorrect, check the continuity of the AC input cable to the LVPS. If correct, replace the LVPS assembly. If incorrect, replace the AC cable to the input of the LVPS.

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	FRU	Action
4	High-capacity feeder option control board	Check the voltage on J8-1 (green). The voltage measures +24 V dc. If incorrect, check the autoconnect system for any problems. +24 V dc must come from the base printer through the autoconnect system to the high-capacity input for the high-capacity feeder to be recognized. If the voltage is correct, check the voltages at J11-3(red) and J11-4(red). The voltages measure +24 V dc. If correct, replace the high-capacity feeder option system board. If incorrect, disconnect J8 from the system board and measure the voltages again. If incorrect, check the LVPS cable and the AC internal wiring from the input appliance receptacle. If incorrect, replace as necessary. If correct, replace the LVPS. If the voltages are correct, check the stepper motor for shorts from the motor housing to each pin on the motor connector. If you find a short between any pin and the motor housing, replace the motor assembly. If no shorts are found, replace the high-capacity feeder option control board. Check the voltage at J9-1 (light blue). The voltage measures approximately +24 V dc. If incorrect, disconnect the cable at J9 and check the voltage again. If the voltage continues to be incorrect, replace the high-capacity feeder option system board. If the voltage measures correctly, check the cable. If the cable is damaged, replace as necessary. If no problem is found with the cable, replace the high-capacity feeder option control board.

`24x.xx Paper Jam` displays, paper jammed over the pass thru sensor

Where *x*=the printer displays the value of *x* for the paper tray where the error occurs. For example: 242.xx is a Paper Jam Tray 2

	FRU	Action
1	Pass thru sensor and flag assembly	The tray *x* option system board did not detect a piece of paper actuating the pass thru sensor. Remove any jammed sheets of paper from the printer and check the pass thru sensor and flag for proper operation by running the appropriate Tray Sensor Test from the diagnostics menu. If the test fails, check the sensor for correct installation and the flag for proper operation. Also check the sensor cable to make sure it is correctly connected to the option system board. If incorrect, replace the tray *x* option pass thru sensor assembly.
2	Power takeoff shaft and spring, bevel gear, feed roll gear, drive roll assembly, wear plate, drive shaft bearings, and skewed backup roller	Check these parts for signs of broken or damaged parts, contamination on the drive rollers or wear plate and wear or damage to the drive shaft bearings. Check the drive roll assembly and skewed backup roller for wear, slick spots, material buildup, and oil or grease on the rollers. Also check for proper operation of the paper aligning assembly. Repair or replace parts as necessary.

`Tray x Paper Low` displays when tray *x* is full or has adequate paper in the tray

	FRU	Action
1	Paper low switch Paper low switch cable High-capacity feeder Input system board	Run the sensor diagnostics for tray *x* (*x*=the number that represents the high-capacity input tray). If the test fails, disconnect the paper low switch cable from J3 on the high-capacity system board. Short pins 1 and 2 together while observing the sensor test on the display. If the display does not change, replace the high-capacity feeder system board. If the display changes check the continuity of the switch. If incorrect, replace the switch. If correct, replace the switch cable.

`Tray x Empty` displays when there is paper in the high-capacity feeder input tray

	FRU	Action
1	Paper out sensor flag	Check the paper out sensor flag for correct operation and installation. If correct, replace the high-capacity feeder system board. (The paper out sensor is mounted on the high-capacity feeder system board.)
2	Paper out sensor (on option system board)	

The elevator tray fails to stop at the correct position and continues to drive into the bottom frame

	FRU	Action
1	Lower limit switch Lower limit switch cable	Check continuity of the lower limit switch. If incorrect, replace the switch. If correct, check the switch cable. If incorrect, replace the cable. If correct, replace the high-capacity feeder option control board.
2	High-capacity feeder control board	Disconnect the lower limit switch cable and check the voltage at J2-1 (orange). The voltage measures approximately +5 V dc. If incorrect, replace the high-capacity feeder option control board.

The elevator tray down button does not operate. The tray moves to the upper position

Service tip: Open the high-capacity feeder front door and check the black rubber bumper attached to the door switch spring. Be sure the rubber button is centered and not touching the sides of the hole or the switch will not function properly.

	FRU	Action
1	Lower limit switch Lower limit switch cable High-capacity feeder control board	Check the lower limit switch to make sure it is not closed (normally open). If incorrect, replace the switch. Check the lower limit switch cable for a short between pins 1 and 2. If incorrect, replace the cable. If correct, replace the high-capacity feeder control board.

Paper from the high-capacity feeder input tray does not reach the pass thru sensor

Service tip: Be sure the paper in tray is within specifications.

	FRU	Action
1	Autocompensator assembly	Check the autocompensator pick arm rollers for sign of glazing, toner or other buildup. Replace as necessary.
2	Wear strips	Check the wear strips for glazing or contamination. Replace as required. It is advisable to replace all four wear strips at the same time.

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The elevator tray does not move up or down; the printer recognizes that the option is installed

	FRU	Action
1	DC drive motor high-capacity feeder option system board	Be sure the motor cable is correctly installed at J1 on the board. Check the cables, damaged or loose wires. Disconnect the motor. Check for a short between each pin and the motor housing. If a problem is found, replace the motor assembly. If no problem is found, measure the resistance between the following pins on the motor cable connector: Pins 1 (brown) and pin 2 (Yellow) The resistance measures between approximately 7.5 and 10.5 ohms. If incorrect, replace the motor assembly. If correct, replace the high-capacity feeder option system board.

The elevator moves in one direction only

	FRU	Action
1	DC drive motor assembly high-capacity feeder system board	Check the voltages at J1 on the high-capacity system board. The voltages measure approximately as follows: **Pin** / **Color** / **Voltage** **Static (motor not running)** J1-1 / Brown / 0 V dc J1-2 / Yellow / 0 V dc **Motor running forward** J1-1 / Brown / 0 V dc J1-2 / Yellow / +24 V dc **Motor running in reverse** J1-1 / Brown / +24 V dc J1-2 / Yellow / 0 V dc If any of the voltages are incorrect, disconnect the motor and measure the resistance between J-1 and J-2. The resistance measures between 7.5 and 10.5 ohms. If incorrect, replace the motor. If correct, replace the system board.

Paper size switch not selecting paper size that is selected

	FRU	Action
1	Paper size switch High-capacity feeder option control board	Check for continuity between the common pin (J5-1) and the pin of the paper size selected. **Pin** / **Color** / **Paper size** J5-1 / Black / Common lead J5-2 / Blue / B5 J5-3 / Green / Executive J5-4 / Yellow / A4 J5-5 / Orange / Letter J5-6 / Red / Legal J5-7 / Brown / A5 If any position does not measure continuity when selected, replace the paper size switch assembly. If the switch assembly is operating correctly, replace the high-capacity feeder option control board.

`24x.xx Paper Jam Check Tray x` displays when tray *x* is empty; tray *x* does not display

	FRU	Action
1	High-capacity feeder option control board	Check the voltages on the board at J4-1(red) and J4-3 (blue). The voltages measure approximately +5 V dc. If incorrect, disconnect J4 from the board and measure the voltages again. If incorrect, replace the high-capacity feeder option control board.
2	Elevator top optical sensor cable Elevator top optical sensor	Check the continuity of the sensor cable. If incorrect, replace the cable. If correct, replace the top optical sensor assembly.

`Tray x Empty` displays; tray does not respond to loading paper; no response from the front door switch

	FRU	Action
1	High-capacity feeder option control board	Check the voltage on the board at J4-2 (green). The voltage measures approximately +5 V dc. If incorrect, disconnect the cable at J4 and check the voltage again. If incorrect, replace the high-capacity feeder option control board.
2	Elevator top optical sensor cable Elevator top optical sensor	Check the continuity of the sensor cable. If incorrect, replace the cable. If correct, replace the top optical sensor assembly.

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`Tray x Paper Low` displays when the high-capacity feeder input tray is full or has adequate paper in the tray

	FRU	Action
1	Paper low switch Paper low switch cable High-capacity feeder option control board	Run the sensor diagnostics for tray *x* (*x*=the number that represents the high-capacity input tray). If the test fails, check the voltage at J3-1 (gray). The voltage measures approximately +24 V dc. If incorrect, disconnect the paper low switch cable from J3 and measure the voltage again on J3-1. If incorrect, replace the high-capacity feeder option control board. If correct, check the cable for a short between pins 1 and 2 on the cable. If incorrect, replace the cable. If correct, check the switch for a bent or deformed actuator lever or defective switch. If incorrect, replace the switch.

Excessive noise or vibration

	FRU	Action
1	DC motor assembly	Make sure all the motor plate mounting screws are tight.
2	Idler pulley DC motor assembly	Make sure the idler pulley is not binding on the pulley shaft. Check the pulley for wear. Check the idler pulley shaft on the motor mounting plate for damage or contamination.
3	Drive pulley	Check the drive pulley for wear, binds or damage to the pulley or pulley shaft. Make sure the pulley turns freely on the pulley shaft.
4	Motor drive belt tray drive belt	Check the DC motor drive belt for damage. Make sure the belt is tracking correctly on the drive pulley, idler pulley, and motor pulley. Check the tray drive belt for damage. Make sure the belt is tracking correctly on the lower section of the drive pulley and lead screw pulleys.

High-capacity output stacker service check

Service tip: The majority of the mechanical components can be observed during operation by removing the left, right, and front covers. The high-capacity output stacker option functions without the covers installed.

Determine which paper path stacker assembly is not functioning properly.

Make sure the option(s) are installed correctly and the machine is configured correctly before attempting to service the high-capacity output stacker option.

See **“High-capacity output stacker board” on page 5-8** to identify the correct jumper locations at J6 for the upper and lower units.

Problems with excessive static electricity buildup

	FRU	Action
1	Front Cover Assembly	Check the front cover assembly to make sure the ESD brush ground lead is firmly attached to the high-capacity option. Also check to make sure the ESD brush is not loose or damaged.

The printer does not recognize one or more output options as installed

Service tip: If more than a single output option is installed, check each one to see if the printer recognizes any single option as installed. If the printer recognizes any of the output options, the base printer autoconnect system is operating correctly. The problem is in the unrecognized option. Continue with this service check or go to the service check for the failing output option.

	FRU	Action
1	High-capacity stacker feeder	Check the autoconnects, cables, and connectors of the option for any signs of loose or damaged parts.
2	High-capacity output stacker/mechanical linkage assembly	Remove the left and right side covers and check all four autoconnects for damage, especially the connector pins. Remove the output option and check the voltages on the standard output bin autoconnect located on the top left rear of the printer. Go to **"Autoconnect" on page 5-6**. If the voltages are correct, reinstall the output option and note the positions of the toroids on the autoconnect cables on the upper and lower assemblies, and check the voltages on the autoconnects. If all voltages are correct and the lower assembly is failing, replace the lower control board. Otherwise, replace the High-capacity output stacker option.

`202.xx Paper Jam Open Rear Door` displays and a sheet of paper is jammed prior to the pass thru sensor flag or `202.xx Paper Jam Open Rear Door` displays, a sheet of paper feeds out to the standard bin even though bin *x* is selected and paper exits half way out of the redrive assembly

Service tip: For this type of problem check the **"Base printer sub error codes" on page 2-9**. They can help isolate the problem. A 202 paper jam message can also occur prior to the high-capacity output stacker pass thru sensors.

	FRU	Action
1	Lower Pass Thru Sensor/ Flag Assembly	Check the flag for correct operation, binding, broken parts, or interference from the sensor cable. If incorrect, repair as necessary. If correct, check to make sure the lower pass thru sensor is correctly connected to J3 on the lower control board. Disconnect the pass thru sensor cable and check the voltage at J3-3. The voltage measures approximately +5 V dc. If incorrect, check the voltage at J3-2. The voltage measures approximately 0 V dc. If incorrect, replace the sensor assembly. If this does not fix the problem, replace the high-capacity output stacker option.

`Remove Paper - Output Bin x Full` displays; you may not be able to clear the message

	FRU	Action
1	Dual output bin sensor flag (upper assembly)	Check the flag for correct operation, binding, broken parts, or interference from the sensor cable. If incorrect, repair as necessary.

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271.xx Paper Jam - Check Bin x, POST incomplete

	FRU	Action
1	Upper pass thru sensor flag assembly Upper control board	Check the flag for correct operation, binding, broken parts, or interference from the sensor cable. If incorrect, repair as necessary. If correct, make sure the lower pass thru sensor is correctly connected to J3 on the lower control board. Disconnect the pass thru sensor cable and check the voltage at J3-3. The voltage measures approximately +5 V dc. If incorrect, check the voltage at J3-2. The voltage measures approximately 0 V dc. If incorrect, replace the sensor assembly. If this does not fix the problem, replace the high-capacity output stacker option.

Input sensor service check

Service tip: Run the Base Sensor Test. Check the input sensor for proper operation. The display changes from open to closed as the sensor flag is manually moved in and out of the sensor.

	FRU	Action
1	Input sensor flag	Check the input sensor flag for damage and proper operation. If a problem is found, repair as necessary.
2	System board	Check for approximately +5 V dc at J15-10 on the system board. If incorrect, replace the system board.
3	Input sensor cable	Check the continuity of the input sensor cable section of the front wiring harness. If incorrect, replace the harness. If correct, replace the input sensor assembly.

Input tray(s) service check

Optional 250-sheet and 500-sheet trays

Service tip: Try all the other input paper sources to make sure they are properly feeding paper.

For 990 Error Code- Service Tray *x*, *x*= displays the number of the tray that has a problem or needs service.

	FRU	Action
1	Tray *x* Option system board or compensator assembly or autoconnect cable	Check the autoconnect cables and connectors for damage. If the cables, connectors, and connections are good, replace the FRUs in the following order: • Autocompensator assembly option • Replace the option.

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`24x.xx Paper Jam` displays, paper jammed over the pass thru sensor

(The printer displays the value of *x* for the paper tray where the error occurs. Example: 241 is a Paper Jam Tray 1)

	FRU	Action
1	Pass thru sensor and flag assembly	The tray *x* option system board did not detect a piece of paper actuating the pass thru sensor. Remove any jammed sheets of paper from the printer and check the pass thru sensor and flag for proper operation by running the appropriate Tray Sensor Test from the diagnostics menu. If the test fails, check the sensor for correct installation and the flag for proper operation. Also check the sensor cable to make sure it is correctly connected to the option system board. If incorrect, replace the tray *x* option pass thru sensor assembly.
2	Power takeoff shaft and spring, bevel gear, feed roll gear, drive roll assembly, wear plate, drive shaft bearings, and skewed backup roller	Check these parts for broken or damaged parts, contamination on the drive rollers or wear plate, and wear or damage to the drive shaft bearings. Check the drive roll assembly and skewed backup roller for signs of wear, slick spots, material buildup, and oil or grease on the rollers. Also check for proper operation of the paper aligning assembly. Repair or replace parts as necessary.

`Tray x Low` displays when tray *x* is full or has adequate paper in the tray

	FRU	Action
1	Paper low sensor assembly Paper low sensor flag tray *x* option system board	Run the Tray *x* Sensor Test and check the sensor for proper operation. If incorrect, check the following: • Paper low sensor flag for smooth and correct operation. • Paper low sensor for correct installation on the autocompensator housing. • Paper low sensor cable for signs of cuts, pinched wiring, or other damage especially at connector J26 on the system board. If no problem is found, replace the paper low sensor assembly. If this does not correct the problem, replace the option system board.

`Tray x Empty` displays when tray *x* has paper in the tray

	FRU	Action
1	Paper out sensor flag	Check the paper out sensor flag for correct operation and installation. If correct, replace the option system board. (The paper out sensor is mounted on the system board).
2	Paper out sensor (on option system board)	

Printer does not recognize Tray *x* is installed

	FRU	Action
1	Autoconnect cables Tray *x* system board	Check the autoconnect from the printer or option above tray *x*. Check for cuts, pinched wiring, or damage to the contacts in the connector. Check the autoconnect cable(s) for correct installation at the tray *x* system board. If correct, replace the tray option.

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Paper from Tray *x* does not reach the pass thru sensor

Service tip: Check the media in tray *x* to make sure it is within specifications. Some types of labels, foil material, and slick papers can cause misfeeds and slippage of the rollers.

	FRU	Action
1	Autocompensator assembly	Check the autocompensator pick arm rollers for any sign of glazing, toner or other buildup. Clean or replace as necessary.

Interconnect card service check

Warning: When replacing any one of the following components:

- Operator panel assembly (or upper front cover)
- System board assembly
- Interconnect card assembly

Only replace one component at a time. Replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable.

Warning: Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a printer, it can not be used in another printer. It must be returned to the manufacturer.

Main drive service check

Service tip: Excessive gear or main drive assembly noise is usually caused by a defective motor assembly or system board.

Warning: Whenever the gearbox assembly is removed from the machine it must be handled very carefully. Do not allow any of the gears to come in contact with any metal or other hard surface to avoid gear damage. It is also very important not to let any dirt, paper, staples, or other material come intact with the grease in the gearbox assembly.

<table>
<tr><th></th><th>FRU</th><th>Action</th></tr>
<tr><td>1</td><td>Main drive assembly (excessive noise or vibration)</td><td>Remove the controller board and run a Diagnostic Print Test in the continuous mode. Check the main drive assembly for any excessive noise or vibration. Determine if the noise is in the main drive, toner cartridge, fuser, or main drive gearbox. Look for any loose or worn parts in the developer drive assembly, main drive gearbox, or fuser. Repair as necessary.</td></tr>
<tr><td>2</td><td>Main drive motor assembly
(excessive noise, gears ratcheting and so on)</td><td>A service error code 936 - Transport Motor may be displayed. Check the voltage at J20-6 on the system board. It measures approximately +5 V dc when the motor is not running and goes to 0 V dc when the motor is running. If incorrect, replace the system board. If this does not fix the problem, replace the main drive motor.</td></tr>
<tr><td>3</td><td>Main drive motor cable</td><td>Check the continuity of the main drive motor cable. If incorrect, replace the cable.</td></tr>
<tr><td>4</td><td>Motor gear does not turn, no 936 error code or <code>201.xx Paper Jam</code> user message displays.</td><td>Check the voltages at J20 on the system board.
<table>
<tr><th>Pin</th><th colspan="2">Voltage</th></tr>
<tr><th></th><th>Static</th><th>When main drive motor is running</th></tr>
<tr><td>J20-11</td><td colspan="2">+24 V dc</td></tr>
<tr><td>J20-8</td><td>+5 V dc</td><td>0 V dc</td></tr>
<tr><td>J20-7</td><td>+5 V dc</td><td>0 V dc</td></tr>
<tr><td>J20-6</td><td>+5 V dc</td><td>+2.5 V dc</td></tr>
<tr><td>J20-5</td><td>+5 V dc</td><td>0 V dc</td></tr>
<tr><td>J20-4</td><td>+5 V dc</td><td>+5 V dc</td></tr>
<tr><td>J20-1</td><td>+5 V dc</td><td>0 V dc</td></tr>
</table>
If the voltage is incorrect, replace the FRUs in the following order:
• Main drive motor assembly
• System board</td></tr>
</table>

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Operator panel service check

Note: The operator panel board is a separate FRU and is also part of the upper front cover FRU

Warning: When replacing any one of the following components:

- Operator panel assembly (or upper front cover)
- System board assembly
- Interconnect card assembly

Only replace one component at a time. Replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable.

Warning: Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a printer, it can not be used in another printer. It must be returned to the manufacturer.

Before continuing with this service check perform the **"Button Test" on page 3-7**.

One or more operator panel buttons fail

	FRU	Action
1	Operator panel buttons kit Operator panel board	If any button fails the Button Test, check the failing button or buttons and associated parts. Repair using the button kit. See **"Operator panel buttons removal" on page 4-67**. If the problem remains, replace the operator panel board (see **"Operator panel board removal" on page 4-66**. If a 950.xx error code is displayed after replacing the operator panel, go to **"950.00 through 950.29 EPROM mismatch failure" on page 2-77**.
2	System board Operator panel board Upper front cover hinge assembly	Disconnect the operator panel cable from J13 on the system board and measure the voltage at J13-5. The voltage should measure approximately +3.3 V dc. If incorrect, replace the system board. See **"System board and inner shield removal" on page 4-76**. If correct, replace the operator panel board. See **"Operator panel board removal" on page 4-66**. If this does not fix the problem, check the operator panel cable. If a problem is found, replace the upper front cover hinge assembly. See **"Upper front cover hinge assembly removal" on page 4-78**.

No buttons work

	FRU	Action
1	Operator panel board	If none of the buttons work, replace the operator panel board (see **"Operator panel board removal" on page 4-66**. If a 950.xx error code is displayed after replacing the operator panel, go to **"950.00 through 950.29 EPROM mismatch failure" on page 2-77**.

Operator panel display

Service tip: The printer has detected a problem with the system board, the operator panel cable (part of the upper front cover hinge assembly), or the operator panel board if POST does not complete, the printer emits 5 *beeps*, and stops in a continuous pattern until the printer is turned off.

Note: If the operator panel is operating properly except for a pel or a few pels missing or broken, run the **"Panel Test" on page 3-7** from the hardware tests before continuing with this service check.

	FRU	Action
1	Operator panel cable	Check for proper installation of the cable at the system board (J13) and at the operator panel. Check the continuity of the operator panel cable. If incorrect, replace the upper front cover hinge assembly. See **"Upper front cover hinge assembly removal" on page 4-78**.
2	Operator panel display blank, 5 beeps, LED off	Check for correct installation of the operator panel cable at J13 on the system board. If incorrect, reinstall the cable properly. If correct, measure the voltage at J13-2 on the system board. The voltage should measure approximately +5 V dc. If incorrect, replace the system board. **"System board and inner shield removal" on page 4-76**. If correct, check continuity of the operator panel cable. If the continuity is incorrect, replace the upper front hinge assembly. If the continuity is correct, replace the operator panel board. See **"Operator panel board removal" on page 4-66**.
3	Operator panel display blank, 5 beeps, LED on	Check for ground between J13-4 and ground. If correct, replace the operator panel board. See **"Operator panel board removal" on page 4-66**. If incorrect, check the operator panel cable. If the cable is incorrect, replace the upper front cover hinge assembly. See **"Upper front cover hinge assembly removal" on page 4-78**. If the correct, replace the system board. See **"System board and inner shield removal" on page 4-76**.
4	Operator panel all diamonds, no beeps	Make sure a card is not plugged in backward. This condition causes the printer to fail POST, displaying all diamonds on the operator panel with no beeps.
5	Operator panel all diamonds, 5 beeps	Check the voltage at Pin J13-1 and J13-3. The voltage measures approximately +3.3 V dc. If incorrect, replace the FRUs in the following order: • Operator panel board (see **"Operator panel board removal" on page 4-66**) or the Upper front cover (see **"Upper front cover removal" on page 4-11**). • System board. See **"System board and inner shield removal" on page 4-76**. • Upper front cover hinge assembly. See **"Upper front cover hinge assembly removal" on page 4-78**.

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Options service check

Service tip: When you have a problem with any of the options installed in the options slots on the interconnect card, switch the non operating option to one of the other option slots to isolate the failure.

Flash Memory Option(s)

Run a copy of the test page and check to see if the option you are checking is listed. The printer does not recognize the option being installed if the option is not listed. Make sure the memory card is installed correctly and is not broken or damaged. If the memory card is correctly installed and not broken or damaged then run the **"Flash Test" on page 3-19**. If the test fails, replace the Flash card. If the problem continues, replace the controller board.

DRAM Memory Option(s)

This service check is the same as the flash memory option service check with the following exception:

Run the **"DRAM Test" on page 3-7** from the menu if the SDRAM Memory card is correctly installed and not broken or damaged. If the test fails, replace the SDRAM card. If the problem continues, replace the controller board.

Hard Disk Option

Service tip: These printers support one hard disk option. Make sure only one hard disk option is installed.

Make sure the fixed disk and the fixed disk board are correctly installed. Run the **"Quick Disk Test" on page 3-18** from the Device Test on the Diagnostics menu when a problem is suspected either with the hard disk system board or with the hard disk.

Note: The Quick Disk Test is a non-destructive test and indicates Pass or Fail. If the test fails, replace the hard disk. If a problem still exists, replace the hard disk board.

The **"Disk Test/Clean" on page 3-19** is used to help restore the disk if the disk contains bad data and is unusable. This test is divided into a cleaning and a verifying or testing section.

Warning: This can be a very lengthy test depending on the disk size. This test leaves the hard disk unformatted. The servicer or user must reformat the disk using the Format Disk Menu operation. This is a destructive type of test. All the data on the disk is destroyed and should not be performed on a known good disk.

Error Code 976.xx - Network Card *x* (x=Network card 1, 2, or 3)

A 976 error code indicates an unrecoverable software error in network card *x*. Verify that network card *x* is correctly installed in the socket on the interconnect card and is properly grounded. If you find no problem, contact your next level of support before replacing the network card.

Error Code 977.xx - Network Card *x*

A 977 error displays when the RIP software detects that a network card is installed in slot *x* on the interconnect card but cannot establish communications with the network card.

Output bin sensor standard tray service check

Service tip: If the output bin standard tray fills up and the bin full sensor fails to post the Remove Paper Standard Bin message:

1. Enter the Diagnostics Mode.
2. Select **Output Bin Tests**.
3. Select **Sensor Tests**.
4. Select **Standard Bin**.
5. Check the sensor and flag for proper operation.

If you find no problem with the sensor and flag, continue with the service check.

Service tip: Be sure the flag is correctly installed. The output bin sensor is a normally closed sensor with the sensor flag down. Therefore, unless the flag is in the up position or out of the sensor slot, a Remove Paper Standard Bin message does not display.

	FRU	Action
1	System board Printer fails to display `Remove Paper Standard Bin` message. Output Bin Sensor Test fails.	Check the voltage at J6-1. It measures +5 V dc when the flag is in the sensor, and 0 V dc when the flag is out of the sensor. If the voltage does not change, replace the sensor cable assembly. If this does not fix the problem, replace the system board.
2	Output bin sensor flag	Make sure the correct flag is installed. Check the flag for damage or improper operation. If incorrect, replace the flag. **Note:** A broken or improper operating sensor flag causes a `Remove Paper Standard Bin` message to display before POST completes and cannot be cleared.

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Output expander service check

Service tip: The majority of the mechanical components can be observed during operation by removing the left, right, and system board covers. The output expander functions without the covers installed.

Make sure the option is correctly installed before attempting to service the unit. No jumpers should be installed at connector J6 on the output expander board.

Problems with excessive static electricity buildup

	FRU	Action
1	Output expander control board cover	Check the output expander control board cover to make sure the ESD brush ground lead is firmly attached to the output expander frame. Also make sure the ESD brush is not loose.

Printer does not recognize one or more output expander options as being installed

Service tip: If more than a single output expander option is installed, check each one to see if the printer recognizes any single option as being installed. If the printer recognizes any of the output expander options then the base printer autoconnect system is operating correctly and the problem is in the unrecognized expander option.

	FRU	Action
1	Output expander option	Make sure the output expander option is the only option that is not recognized by the base printer. If the output expander is the only option not recognized by the printer, continue with step 2. If not, check the autoconnects of the options not recognized and the interconnect card and cable connections.
2	Output expander assembly mechanical linkage	Check the autoconnects for damage, especially the connector pins. Remove the left and right side covers. Remove the front control board cover. Check the cables at J1A, J1B, J2A and J2B on the control board to make sure they are attached securely and correctly. Remove the output expander and check the voltages on the output bin autoconnect located on the top left rear of the printer. Go to **"Autoconnect" on page 5-6**. If the voltages are correct and the problem persists, replace the output expander option.

`202.xx Paper Jam Open Rear Door` message displays; a sheet of paper is jammed prior to the pass thru sensor flag

202.xx `Paper Jam Open Rear Door` message displays; a sheet of paper feeds out to the standard bin even though bin *x* is selected; paper exits half way out of the redrive

Service tip: For this type of problem check the sub error codes. They can help isolate the problem. 202 Paper Jam messages can also occur prior to the output expander pass thru sensor.

	FRU	Action
1	Output expander drive belt Pulley drive belt Idler pulley belt tension spring	Check to ensure the output expander drive belt is correctly installed on the drive pulley and belt idler pulley. Check the belt tension spring to make sure it is not loose or broken. Repair as necessary.
2	Mechanical linkage DC motor assembly	If the DC motor is functioning properly check the gears, clutch, and other linkage parts for correct operation and wear, broken gear teeth, or damaged parts. If incorrect, replace the output expander option.

`Remove Paper—Output Bin x` displays, POST incomplete, unable to clear the message

	FRU	Action
1	Dual output bin sensor flag	Check the flag for correct operation, binding, broken parts, or interference from the sensor cable, If incorrect, repair as necessary. or replace the output expander option.

`271.xx Paper Jam—Check Bin x`, POST incomplete

	FRU	Action
1	Pass thru sensor and flag assembly Control board	Check the sensor flag for proper operation. If correct, check to make sure the pass thru sensor cable is correctly connected to J3 on the control board. Disconnect the pass thru sensor cable from J3 on the control board and check the voltage at J3-3. The voltage measures approximately +5 V dc. If incorrect, replace the control board. If correct, check the voltage at J3-2. The voltage measures approximately 0 V dc. If incorrect, replace the sensor assembly. If this does not fix the problem, replace the output expander option.

271.xx Paper jam - Check Bin *x*, POST complete, first sheet of paper feeds into output bin *x*

Note: Before performing the following checks, run the Output Bin X Sensor Test and check for the failing sensor.

Sensor Test:
NF = Near Full (Upper part of sensor assembly)
F = Full (Lower part of sensor assembly)
P = Pass Thru Sensor

990 Service - Bin *x*

If displayed, replace the output expander option.

No indication that bin *x* is full or no indication that bin *x* is near full

	FRU	Action
1	Dual output bin *x* sensor assembly Output expander control board	Check for correct installation of the sensor cable at J5 on the output expander control board. If either the Bin Full (F) or Bin Near Full (NF) fail the sensor test then check the voltage at J5-3 and J5-4. The voltage measures approximately +5 V dc. If the voltage is incorrect, replace the output expander option. If correct, replace the sensor assembly.

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Paper feed service check

If you have a 936 Transport Motor Error go to **“Main drive service check” on page 2-105**.

	FRU	Action
1	Alignment assembly	Check to ensure the alignment assembly is correctly attached to the left side frame and the mounting screws are tight. Check the alignment assembly for worn rollers, contaminated rollers, or binds. Replace the alignment assembly if any problem is found.
2	Inner deflector	Check the inner paper deflector for correct installation. If the deflector is bowed or not fitting correctly, replace the deflector.

Autocompensator fails to feed paper. Failures occur randomly throughout the stack of paper

	FRU	Action
1	Pass thru sensor	Check the pass thru sensor for correct installation and operation.
2	Autocompensator assembly	The autocompensator pick roll shaft assembly is not providing enough torque if the pick rollers are not picking the paper correctly. Replace the autocompensator assembly.
3	Wear strips in tray *x* problem is found.	Check the wear strips for excessive wear, scratches, or rough spots. Replace the wear strips if a problem is found.

Paper feed failures occur only near the top of the stack of paper

The most common cause of this problem is paper curl. Remove the paper from tray *x* and check for the natural curvature in the paper. Reinstall the paper in the correct manner. If the problem persists, it may be necessary to reduce the stack height. Replace both pick rolls if the paper appears to be flat in the tray but there is still a problem.

Failures occur mainly near the bottom of the stack of paper

The autocompensator pick arm may not be coming down far enough to allow the pick rolls to properly contact the paper. Also the autocompensator motor may be failing. If this problem continues replace the autocompensator assembly.

Double feeding paper

Note: If double feeding paper occurs mostly from the bottom of the stack, check for missing or damaged restraint pads in the tray.

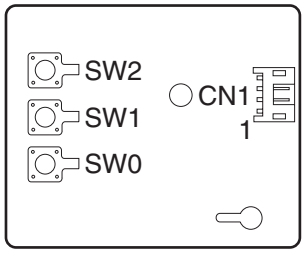
	FRU	Action
1	Paper	Paper is usually the primary cause of a double feeding paper problem. Flex the paper before placing the paper in the tray. Edge-welded paper is the most common cause of double feeding. Loading the paper in the tray in different locations and directions and using rough paper and short grain paper also causes double feeding.
2	Autocompensator	Make sure the counterbalance spring is not missing, loose, or broken at the top of the autocompensator arm assembly. If you find a problem, replace the autocompensator assembly.

Paper fails to feed from the multipurpose tray

The pick roll should make one complete revolution and stop with the flat side down. If the pick roll turns but does not pick paper, check the roll for signs of wear, oil or grease on the surface of the pick roll or slick spots. If you find a problem, replace the pick roll assembly. Check to ensure the media that is being fed through the multipurpose tray assembly meets recommended paper specifications.

Paper size sensing service check

Before proceeding, check for the correct paper size loaded in the tray and that the tray has been set to accept the size paper loaded in the tray.



Paper size sensing switch chart

ITC CN1 pin	Signal	ITC switch	Paper tray size selection (X is activated)						System board J34 pin
			Letter	Legal	A4	Exec	B5	A5	
1	PSIZE2	SW1	X	X			X		1
2	Ground	Ground							2
3	PSIZE1	SW0			X	X	X		3
4	PSIZE3	SW2	X			X		X	4

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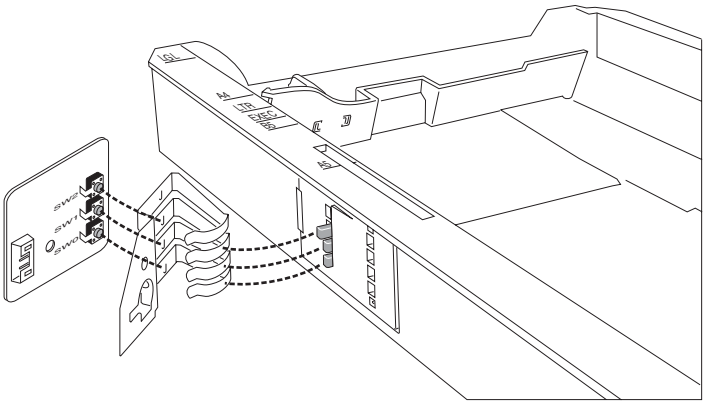
Tray 1 not recognized as being installed; unable to clear `Tray 1 Missing` message

	FRU	Action
1	Tray 1	Check Tray 1 for damaged or broken autosize fingers. Check for anything that would prevent the autosize fingers from activating the paper activate springs and ITC switches.  If a problem is found, repair or replace the tray assembly. If no problem is found, go to step 2.
2	Integrated card/ autocompensator cable	Check for correct installation of the cable at J26 on the system board. If installed correctly, go to step 3. If incorrectly installed, install and recheck the printer.
3	System board	Check the continuity between J26-2 on the system board and ground. It should measure approximately 0 ohms.

The printer does not recognize the paper size selected

<table>
<tr><th></th><th>FRU</th><th>Action</th></tr>
<tr><td>1</td><td>Back restraint
Side restraint
Snap-in plate
Autosize slider
Autosize finger</td><td>Check all the paper size parts for damage or broken parts. make sure the parts operate correctly. If a problem is found, repair as necessary. If no problem is found, go to step 2.</td></tr>
<tr><td>2</td><td>Switch activate spring
Paper size sending board</td><td>Make sure the switch activate spring is not bent or broken. Replace the spring if damaged. If the spring is not damaged, go to step 3.</td></tr>
<tr><td>3</td><td>System board
ITC cable</td><td>Set the tray for the paper size that is not recognized and install the tray in the printer. Select the paper size and corresponding paper switch from table, below.
<table>
<tr><th rowspan="2">Pin J26</th><th rowspan="2">Signal</th><th rowspan="2">Static tray out (V dc)</th><th colspan="6">Static with paper tray in and set to: (V dc)</th></tr>
<tr><th>Letter</th><th>Legal</th><th>A4</th><th>Exec</th><th>B5</th><th>A5</th></tr>
<tr><td>1</td><td>PSIZE2</td><td>+3.3</td><td>0</td><td>0</td><td>+3.3</td><td>+3.3</td><td>0</td><td>+3.3</td></tr>
<tr><td>2</td><td>Ground</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>3</td><td>PSIZE1</td><td>+3.3</td><td>+3.3</td><td>+3.3</td><td>0</td><td>0</td><td>0</td><td>+3.3</td></tr>
<tr><td>4</td><td>PSIZE3</td><td>+3.3</td><td>0</td><td>+3.3</td><td>+3.3</td><td>0</td><td>+3.3</td><td>0</td></tr>
<tr><td>5</td><td colspan="8">N/A</td></tr>
<tr><td>6</td><td colspan="8">N/A</td></tr>
<tr><td>7</td><td colspan="8">N/A</td></tr>
<tr><td>8</td><td>+3.3</td><td>+3.3</td><td>+3.3</td><td>+3.3</td><td>+3.3</td><td>+3.3</td><td>+3.3</td><td>+3.3</td></tr>
<tr><td>9</td><td colspan="8">N/A</td></tr>
<tr><td>10</td><td colspan="8">N/A</td></tr>
</table>
If the voltage on J26 does not change, go to step 4. If the voltage changes, recheck the printer. If <code>Tray 1Missing</code> is still displayed, replace the system board assembly.</td></tr>
<tr><td>4</td><td>System board</td><td>Ground the appropriate pin on connector J26 on the system board. <code>Tray 1 Missing</code> should not be displayed. If it is not displayed, go to step 5. If it still displays, replace the system board assembly.</td></tr>
<tr><td>5</td><td>Autocomp cable</td><td>Check continuity of the autocomp cable. If correct, replace the ITC assembly. If incorrect, replace the autocomp cable.</td></tr>
</table>

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Parallel port service check

Run the **“Parallel Wrap tests” on page 3-8**.

Note: The Parallel Wrap Test is designed to check the parallel port hardware by using a wrap plug (P/N 1319128) and invoking the Parallel Diagnostic Test. This test helps isolate the printer from the parallel cable and host. The test provides failure information on the display for approximately three seconds. If the test indicates that a problem is detected, replace the controller board.

Print quality service check

Service tip: Before troubleshooting any print quality problems do the following:

- Install another print cartridge if available before proceeding with the service checks.
- Use Tray 1 to test for print quality of the base printer.
- Replace the charge roll if it is damaged or contaminated.
- Replace the transfer roll if it is damaged or contaminated.
- Make sure the fuser assembly is installed correctly.
- Verify proper paper type, texture, and weight settings for the media being used.
- Test the printer using plain paper (20 lb).

Select the following menu settings as indicated. Be sure and note the original settings so you can return the printer to the original customer printer setup.

- Print Resolution: Set to 300 dpi (print quality problems should be checked at different resolution settings).
- Print Darkness: Set to NORMAL.
- Toner Saver: Set to OFF.
- PQET: Set to OFF.
- Fuser Temperature: Set to NORMAL.
- Test the printer using plain paper (20 lb).

An incorrect printer driver for the installed software can cause problems. Incorrect characters could print, and the copy may not fit the page correctly.

Measure all voltages from the connector to printer ground. All voltages measured during the print cycle are measured with the controller board removed while running the print test.

Print quality—all black page

Service tip: An all black page is generally caused by a problem in the high voltage system or an incorrect high voltage in the printing process resulting in toner development on the entire photoconductor drum.

	FRU	Action
1	High voltage contacts	Check the high voltage contacts on the right side frame to ensure they fit securely and are not pitted, contaminated, or damaged. If incorrect, replace the contact with one from the HV contact kit. Screws and plastic blocks are included to attach the contacts to the right side frame in the HV contact kit.
2	Charge roll conductive bushing	Make sure the charge roll bushing is correctly installed in the right charge roll arm.
3	HVPS	Check the voltages on J15-1 thru J15-8. If incorrect, replace the system board.

	FRU	Action
4	HVPS cable (part of front harness cable) System board	Check the continuity of the HVPS cable. If incorrect, replace the cable assembly. If correct, replace the system board.

Print quality—blank page

	FRU	Action
1	Print cartridge	Check the print cartridge for damage, especially the PC drum contact on the cartridge.
2	High voltage contact	Check the PC drum contact on the right side frame for damage, PC drum contact wear or contamination. If the contact is bent or damaged, replace the contact. **Note:** Inspect the HVPS PC drum contact on the board for damage or contamination.
3	HVPS	Check the fuse on the HVPS. If open, replace the HVPS. Check the voltages at J22 on the system board. Measure the following voltages from connector J22 to printer ground: • Printer Idle J15-5 measures +24 V dc • Printer Printing J15-5 measures +24 V dc If the voltages at J10-5 are incorrect, replace the system board.
4	Front cable harness HVPS section	Check the front cable harness at J15 on the system board and at CN1 on the HVPS to make sure the harness is connected properly. If connected properly, check the continuity of the cable harness. If there is no continuity, replace the front cable harness.
5	Printhead assembly	Generally a 93*x* service error is posted if the printhead assembly fails and the printer does not give a blank copy symptom. The printhead used in the printer does not have a mechanical shutter as previous laser printers. The printer is interlocked through the front top cover interlock switch.

Print quality—random marks

Service tip: The primary cause of random marks is due to loose material moving around inside the printer and attaching to the photoconductor, charge roll, or transfer roll.

	Symptom	Action
1	Random marks	Check the print cartridge for loose or foreign material that might be on the photoconductor. Check the transfer roll and charge roll for any pieces of material that are stuck to the rolls.

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Print quality—blurred or fuzzy print

Blurred of fuzzy print is usually caused by a problem in the main drive gearbox assembly, alignment assembly, any feed roller, or in the transfer roll bearings or transfer roll. Check the gearbox assembly for correct operation. Check the transfer roll for binds or a contaminated shaft or bearings.

Blurred print can also be caused by incorrect feeding from one of the input paper sources, paper trays, duplex option, or envelope feeder.

Check the high voltage contacts to ensure they are not bent, corroded, or damaged. Replace as necessary.

Print quality—background

Service tip: Some background problems can be caused by rough papers, non-Lexmark toner cartridges or if the media texture is set to the rough setting.

Some slick or coated papers may also cause background problems. Some problems occur with printers that run a large amount of graphics in a humid environment. The customer may try to improve the print quality by increasing the transfer setting.

Check the charge roll to make sure it is not at the end of life.

	FRU	Action
1	Printhead	The printhead on this printer cannot be cleaned. Try another printhead if all other attempts fail to correct a background problem.
2	Transfer roll assembly	Check the high voltage contact from the HVPS to the transfer roll. Check the transfer arm assembly right side bearing for contamination, pitting, or a loose cable to the bearing. If any problems are found, replace the defective part. Check the transfer roll shaft for contamination, wear, or pitting on the ends of the shaft that go into the bearings. If a problem is found, clean the ends of the shaft or replace the transfer roll assembly.
3	High voltage contacts	Check the high voltage contacts on the right side frame to ensure they are clean and not bent, deformed, or pitted. If incorrect, replace the contact.

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<table>
<tr><th></th><th>FRU</th><th>Action</th></tr>
<tr><td>4</td><td>System board HVPS connector</td><td>Check the following voltages at J15 on the system board. Measure the voltages from J15 to printer ground.
<table>
<tr><th>Pin J15</th><th>Voltage (approximate)</th></tr>
<tr><td colspan="2">Printer idle</td></tr>
<tr><td>J15-1</td><td>0 V dc</td></tr>
<tr><td>J15-2</td><td>+4 V dc</td></tr>
<tr><td>J15-4</td><td>0 V dc</td></tr>
<tr><td colspan="2">Printer printing</td></tr>
<tr><td>J15-1</td><td>0 V dc to +5 V dc</td></tr>
<tr><td>J15-2</td><td>0 V dc to +4 V dc</td></tr>
<tr><td>J15-4</td><td>0 V dc to +1.9 V dc</td></tr>
</table>
If J15-1 voltage is incorrect, check the continuity of the front harness cable (J15-1 line). If there is no continuity, replace the harness cable. If there is continuity, replace the HVPS. If this does not correct the problem, replace the system board.
If J15-2 voltage is incorrect or if the voltage remains at 0 V dc, check the continuity of the front harness cable (J15-2 line). If there is no continuity, replace the harness cable. If there is continuity, replace the HVPS. If this does not correct the problem, replace the system board.
If J15-4 voltage is incorrect, check the front harness cable (J15-3 line). If there is not continuity, replace the harness cable. If correct, replace the system board. If this does not correct the problem, replace the HVPS.</td></tr>
</table>

Print quality—banding

Service tip: Banding is difficult to detect, except on a page with a uniform gray or a large amount of graphics printed on the page. Banding is primarily due to a variation in the speed of the paper as it feeds through the printer, especially in the development and transfer process. Inspect the alignment assembly, main drive assembly, and all other paper feed components for signs of wear, dirt, binds, or damage, especially the drive gears. Banding appears as light or dark horizontal lines on a uniformly gray page.

Banding can also be caused by a defective charge roll brush contact or HVPS. Check the charge roll contact for damage and for proper connection to the HVPS and print cartridge.

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Print quality—black bands on outer edges of the page

This print quality problem appears as vertical black bands on one or both sides of the copy and can be wide, narrow, light, or dark.

	FRU	Action
1	Charge roll counterbalance springs	If the problem is just on one side of the page, check the charge roll counterbalance spring on that side. You can check to see if enough force is being applied to the charge roll by applying slight downward pressure with your finger to the charge roll link arm that the spring is attached to while you run a print test sample. See if the problem changes or goes away. If this fixes or changes the problem, then check the springs and charge roll link arm assemblies for binds or defective parts. Replace as necessary.
2	Charge roll assembly Charge roll link arm	Check the charge roll for toner buildup or other contamination on the outer edges that correspond to the bands on the page. Check the charge links and arms for proper operation, binds or incorrectly mounted counterbalance springs. Repair or replace as necessary.
3	HVPS	Check the following voltages at J15-8 on the system board: • Printer Idle J15-8 measures 0 V dc • Printer Printing Test Page J15-8 voltage changes from 0 V dc to +4 V dc If the voltage does not vary, check the continuity of line J15-8 in the front cable harness. If there is no continuity, replace the cable harness. If there is continuity, replace the HVPS. If this does not correct the problem, replace the system board. Turn the printer off, and check the resistance between J15-7 and printer ground. The resistance measures approximately 0 ohms. If incorrect, make sure the system board is mounted correctly and securely grounded. If correct, replace the system board.

Print quality—residual image

Service tip: Install a new print cartridge if available before doing this service check. Residual image can be caused by the photoconductor, cleaning blade, and other parts inside the print cartridge.

	FRU	Action
1	Hot roll fuser assembly	Check the fuser assembly for toner contamination. The hot roll especially might cause toner to be retained and deposited on the page.

Print quality—light print

Service tip: Check the toner saver and print darkness settings first if the print is light.

	FRU	Action
1	Transfer roll	Check the right end of the transfer roll shaft for signs of wear or contamination. If incorrect, replace the transfer roll.
2	Right side transfer roll arm assembly HVPS	Check the right side transfer roll arm assembly bearing for wear or contamination. Also make sure the transfer cable is firmly attached to the bearing. If incorrect, replace the right side transfer arm assembly. Check the connection of the transfer roll assembly cable to the transformer on the HVPS board. Check the continuity of the cable from the bearing to the spade terminal on the cable. If incorrect, replace the right side transfer arm assembly. If correct, replace the HVPS.
3	Printhead	A contaminated printhead may be the cause of light print. If no other cause is found, install a new printhead.

Print quality—toner on backside of printed page

Service tip: This is generally caused by loose toner in the machine in the paper path being carried through the printer on the backside of the paper.

	FRU	Action
1	Hot roll fuser assembly	Toner is being carried out on the backside of the media. This problem is generally caused by a toner buildup on the fuser hot roll or backup roll. Check the fuser hot roll and backup roll for any noticeable buildup of toner. Repair as necessary.
2	Transfer roll transfer plate assembly	Check the transfer roll for toner buildup or loose toner around the area of the transfer plate assembly. Clean the area and run another copy. If the problem continues, replace the FRUs in the following order: • HVPS • System board

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Printhead service check

CAUTION: The printhead is not a serviceable FRU. Do not disassemble the printhead.

The printhead assembly does not contain any service replaceable parts or components. If service error code 930.xx displays, the wrong printhead is installed in the printer. See **"Printhead" on page 7-10**.

Note: A 201.xx paper jam may also indicate a failing printhead. The paper may have jammed prior to or at the input sensor. Print the event log and see if 201 or 931 errors are logged.

	Service error code	Explanation
1	Error code 931.xx No first HYSNC Signal Error Code 932 Lost HYSNC	These errors usually indicate a failure in the HYSNC signal to the printhead. Check the continuity of the cables connected to J2 and J4 on the system board. If incorrect, replace the defective cable. The voltage at J4-1 measures approximately +5 V dc. If incorrect, replace the system board. The voltage at J2-7 measures approximately +24 V dc. If incorrect, replace the system board. If correct, replace the printhead assembly.
2	Error Code 934.xx Mirror motor lost lock Error Code 935 Mirror motor unable to reach operating speed	These error codes indicate a problem with the mirror motor circuit in the printhead assembly or the mirror motor cable to the system board cable or system board assembly. The voltage at J5-2 measures approximately +24 V dc. If incorrect, replace the system board. If correct, replace the FRUs in the following order: • System board • Printhead assembly

Signature button assembly service check

Note: If you are unable to clear a `32.xx-Unsupported Cartridge` User Error message, be sure a Lexmark T64x print cartridge is correctly installed in the printer. The cartridge is easily identified by the contact board on the right side rear of the cartridge. Install another print cartridge before attempting to troubleshoot the printer. Make sure the signature button cable is properly connected to J14 on the system board. Check the print cartridge for damage or improper installation of the chip. Also, be sure there is proper contact between the chip on the cartridge and the signature button contact assembly.

Service tip: An intermittent `32.xx-Unsupported Cartridge` User Error message can be caused by poor contact between the signature button cartridge contacts in the upper front cover and the chip. Also check for proper seating of the signature button cartridge cable to the system board.

	FRU	Action
1	Signature button contact assembly System board	Check the voltage on the signature button cartridge contact. The voltage measures approximately +3.8 V dc when not writing data to the system board. If data is being written, the voltage measures approximately 0 V dc. If incorrect, disconnect the cable from J19 on the system board, and check the voltage on J19-1. The voltage measures approximately +5 V dc. • If incorrect, replace the system board. • If correct, replace the signature button cartridge contact assembly.

StapleSmart finisher service check

Note: When removing the stapler mechanism from the option, first remove the staple supply cartridge.

Note: When replacing staples in the supply cartridge, discard any old staples in the cartridge, and replace with a fresh strip.

Problems with static electricity buildup

	FRU	Action
1	Top cover	Make sure the brush is attached to the top cover assembly, the ground clips are installed, and the brush is grounded.

Printer does not recognize StapleSmart finisher option as being installed

	FRU	Action
1	StapleSmart finisher option	Ensure that the StapleSmart finisher is the only option that is not recognized by the base printer. If the finisher is the only option not recognized by the printer, continue with step 2. If not, check the autoconnects of the options not recognized and the interconnect card and cable connectors.
2	Stapler motor/drive assembly stapler card assembly	Check the autoconnects for signs of damage, especially the connector pins. Remove the right side cover, and check the cables at J1A, J1B (bottom autoconnect), J14A, J14B (top autoconnect) to the stapler card assembly to make sure they are attached securely. Check the voltages at the printer top autoconnect. If incorrect, remove the finisher option, and go to **"Autoconnect" on page 5-6**. If voltages are correct, reinstall the finisher option, and check the voltages at J1A and J1B on the connector. If correct, replace the stapler card assembly. If incorrect, replace the stapler option.

`Close Finisher Top Cover` displayed—unable to clear or reset message (POST incomplete)

	FRU	Action
1	Top cover assembly	Check the top cover assembly to ensure that it is actuating the top cover switch and the cover is opening and closing correctly.
2	Top cover switch stapler card assembly	Check continuity of the stapler top cover open switch. If incorrect, replace the switch assembly. If correct, replace the stapler card assembly.

`Close Finisher Side Door` displayed—unable to clear or reset message (POST incomplete)

	FRU	Action
1	Side cover door	Check the stapler access door for any signs of damage or broken parts. Make sure the door correctly actuates the stapler side access door switch. If this does not fix the problem, replace the stapler option.

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POST incomplete—stapler cycles several times

	FRU	Action
1	Stapler assembly	Replace the stapler assembly. **Note:** When replacing the stapler assembly, observe the location of the ground lead from the stapler assembly and the finisher frame. Make sure the ground lead is correctly reattached.

990.xx Service Error Code—Check Bin x displayed—POST incomplete

- **“Step1—During POST the stapler option does not try to home” on page 2-124**.
- **“Step 2—During POST the stapler option tries to home” on page 2-124**.

Step1—During POST the stapler option does not try to home

Replace the stapler option.

Step 2—During POST the stapler option tries to home

Replace the stapler option.

281.xx Paper Jam—paper feeds partway into the standard bin even if finisher is selected

Note: When a 900.xx Service Error is displayed during POST, the failure is usually in the stapler gearbox assembly or stapler cartridge.

Replace the stapler option.

281.xx Paper Jam—The paper may jam at the upper deflector

Replace the stapler option.

281.xx Paper Jam—paper jams into stapler output bin

Replace the stapler option.

282.xx Staple Jam—Check Stapler displays

	FRU	Action
1	Stapler assembly	Check the stapler assembly for broken or damaged parts.

POST incomplete—Insert Stapler Cartridge displays (cartridge holder is installed and cannot clear message)

When this failure occurs, the following may also occur in the order shown:

- Insert Staple Cartridge displayed.
  The stapler assembly may cycle or fire a few times.
- 282.xx Stapler Jam displayed.
  The stapler assembly may try to cycle or fire.
- 990.xx Service - Check Bin 1 displayed.

	FRU	Action
1	Stapler cartridge holder Stapler assembly	Before proceeding with the service check, gently try to remove the stapler cartridge holder from the stapler assembly. If the holder is jammed in the stapler assembly: 1. Turn the printer off, and remove the right side cover. Use care when removing the cover, as the right side door switch and cable assembly are easily damaged. Do not allow the right side cover to hang by the switch and cable assembly. 2. Disconnect the 10 pin cable from the stapler assembly. 3. Hold the stapler assembly with one hand while removing the three screws from the assembly. The assembly is heavy and easy to drop. 4. Check the stapler assembly for damaged or broken parts. Check the flag and spring assembly on the front of the stapler assembly to see if the flag or spring are broken or missing. If any problem is found, replace the stapler assembly. If no problem is found, continue with step 5. 5. Carefully cycle the large gear on the side of the stapler assembly, and try to free the cartridge holder assembly. **Note:** Look for staples jammed at the throat of the cartridge holder, and remove any that are found. Gently try to remove the cartridge holder from the stapler assembly. It may be necessary to manually cycle the large gear on the side of the stapler assembly to release the cartridge holder. 6. Reinstall the stapler assembly with a new stapler cartridge holder and staples. Run the Finisher Feed Test to check the option. If the problem continues, go to step 2.
2	Stapler to stapler board (J3) cable	Check the continuity of the cable. If a problem is found, replace the stapler option.

283.xx Staple Jam—Check Stapler displays

	FRU	Action
1	Staple cartridge holder	Check the staple cartridge holder for any signs of damage and for any jammed staples in the cartridge. Replace the staple cartridge holder if damaged. If staples are jammed in the cartridge, replace the old strip of staples with a new strip, and try the finisher feed test from the diagnostic menu.
2	Staple unit	Remove the staple cartridge holder from the staple unit, and remove the staple unit. Check for any staples that might be in the staple unit mechanism. Check for correct operation and for any signs of damage.

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Paper feeds into finisher option output tray—Paper is not stapled—Paper does not align with the right side

Replace the stapler option.

Misalignment of sheets to be stapled

	FRU	Action
1	Left side bail assembly	Check the left side bail assembly for any signs of binding, missing, or broken parts.
2	Stapler gearbox assembly	Check the stapler gearbox assembly for correct operation. If the problem is found, replace the stapler option.

Sheets are transported into output tray but not stapled

Replace the stapler option.

Stapled sheets are not transported to the output tray

Replace the stapler option.

POST incomplete—stapler cycles several times

	FRU	Action
1	Stapler assembly	Replace the stapler assembly. **Note:** When replacing the stapler assembly, observe the location of the ground lead from the stapler assembly and the finisher frame, and make sure the ground lead is correctly reattached. (Flag or spring off stapler unit) Will also happen when pin 7 of J3 is open.

System board service check

Warning: When replacing any one of the following components:

- Operator panel assembly (or upper front cover)
- System board assembly
- Interconnect card assembly

Only replace one component at a time. Replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable.

Warning: Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a printer, it can not be used in another printer. It must be returned to the manufacturer.

Toner sensor service check

Service tip: Check the print darkness menu setting before checking the toner sensor.

This service check is intended to be used when a 929.xx Service Error displays.

	FRU	Action
1	Developer drive assembly	Incorrect operation of the developer drive assembly can cause the printer to display a 929.xx error code (Toner Sensor). Check the developer drive assembly for correct installation or, any sign of worn, loose, or broken parts.
2	Front harness cable	Check the toner sensor portion of the front harness cable to make sure it is properly seated into the toner sensor. If correct at both the sensor and system board (J15), check the continuity of the cable. If incorrect, replace the cable.
3	Toner sensor	The toner sensor cable is part of the front harness and part of connector J15 on the system board. Check the voltage at J15-11. It reads approximately +5 V dc. If incorrect, replace the system board. If correct, check the voltage at J15-12. It reads approximately +5 V dc with the system board removed from the printer. If incorrect, replace the system board. If correct, replace the toner sensor assembly. A bad ground connection between J15-13 on the system board and pin 3 on the toner sensor results in a 929 service error.

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Transfer roll service check

Service tip: The transfer roll is 51.02 mm (2.009 inch) circumference. Any print quality problems such as lines that are spaced 51.02 mm apart indicate you should check the transfer roll for damage and check for toner or foreign material buildup.

Service tip: The transfer roll assembly is part of the maintenance kit and is replaced when an `80 Scheduled Maintenance` displays. Ask the customer if they have replaced the transfer roll recently.

CAUTION: Make sure the printer is unplugged before making any checks on the transfer roll or associated parts for personal safety and to prevent damage to the printer.

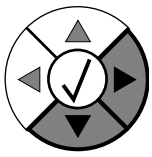
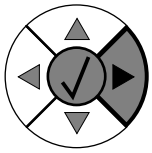
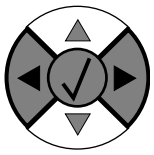
	FRU	Action
1	Transfer roll assembly	Check the transfer roll for toner buildup, surface damage to the roll, oil, or other contaminants on the surface of the roll. Replace the transfer roll as necessary.
2	Left transfer arm assembly	Check the left transfer roll arm assembly to make sure it is fastened and locked in the down position. If the arm is not locked down, make sure the arm is not broken and locks into the EP frame correctly. Check the left transfer arm assembly spring for proper operation.
3	Right transfer arm assembly	Check the right transfer arm assembly to make sure it is fastened and locked in the down position. If the arm is not locked down, make sure the arm is not broken and locks into the EP frame correctly. Check the right transfer arm assembly spring for proper operation. For any background problems, ensure the contact to the HVPS board is correct and that there is approximately 0 ohms resistance between the transfer roll shaft and the HVPS contact. If correct, go to **“Print quality—background” on page 2-118**.
4	HVPS—917 Error code	Check the voltage at J15-3. The voltage changes from +24 V dc with the printer idle to 0 V dc when the printer runs the print test. If the voltage is incorrect, check the continuity of line J15-3 in the front cable harness to the HVPS. If there is no continuity, replace the cable harness. If there is continuity, replace the HVPS. If the problem continues, replace the system board.

3. Diagnostic aids

This chapter explains the tests and procedures to identify printer failures and verify repairs have corrected the problem.

Accessing service menus

There are different test menus that can be accessed during POR to identify problems with the printer.

Diagnostics Mode	1. Turn off the printer. 2. Press and hold ▼ and ▶.  3. Turn on the printer. 4. Release the buttons when `Performing Self Test` displays.	The Diagnostics Mode group contains the settings and operations used while manufacturing and servicing the printer. See **"Diagnostics mode" on page 3-2** for more information.
Configuration Menu	1. Turn off the printer. 2. Press and hold ✓ and ▶.  3. Turn on the printer. 4. Release the buttons when `Performing Self Test` displays.	The Configuration Menu group contains a set of menus, settings, and operations which are infrequently required by a user. Generally, the options made available in this menu group are used to configure a printer for operation. See **"Configuration menu (CONFIG MENU)" on page 3-25** for more information.
Flash system code mode	1. Turn off the printer. 2. Press and hold ◀, ✓, and ▶.  3. Turn on the printer. 4. Release the buttons when `Performing Self Test` displays.	

To run the printer diagnostic tests described in this chapter, you must put the printer in Diagnostic Mode.

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Diagnostics mode

Entering Diagnostics mode

1. Press and hold ▼ and ▶.
2. Turn on the printer.
3. Release the buttons when `Performing Self Test` displays.

Available tests

The tests display on the operator panel in the order shown:

Diagnostics mode tests

REGISTRATION	See **"REGISTRATION" on page 3-4**
Bottom Margin	
Top Margin	
Left Margin	
Right Margin	
Quick Test	See **"Quick Test" on page 3-5**
PRINT TESTS	
Tray 1	See **"Input source tests" on page 3-6**
Tray 2 (if installed)	
Tray 3 (if installed)	
Tray 4 (if installed)	
Tray 5 (if installed)	
MP Feeder	
Env Feeder (if installed)	
Prt Quality Pgs	See **"Print quality pages (Prt Quality Pgs)" on page 3-6**
HARDWARE TESTS	
Panel Test	See **"Panel Test" on page 3-7**
Button Test	See **"Button Test" on page 3-7**
DRAM Test	See **"DRAM Test" on page 3-7**
CACHE Test	
Parallel Wrap	See **"Parallel Wrap tests" on page 3-8**
Parallel 1 Wrap (if installed)	
Parallel 2 Wrap (if installed)	
Serial 1 Wrap (if installed)	See **"Serial Wrap tests" on page 3-9**
Serial 2 Wrap (if installed)	

Diagnostics mode tests (continued)

DUPLEX TESTS (if installed)	
Quick Test	See **“Quick Test (duplex)” on page 3-9**
Top Margin	See **“Top Margin (duplex)” on page 3-10**
Sensor Test	See **“Sensor Test (duplex)” on page 3-10**
Motor Test	See **“Motor Test (duplex)” on page 3-11**
Duplex Feed 1	See **“Duplex Feed 1” on page 3-12**
Duplex Feed 2	See **“Duplex Feed 2” on page 3-12**
INPUT TRAY TESTS	
Feed Tests	See **“Feed Tests (input tray)” on page 3-13**
Sensor Test	See **“Sensor Test (input tray)” on page 3-13**
OUTPUT BIN TESTS	
Feed Tests	See **“Feed Tests (output bins)” on page 3-14**
Feed To All Bins	See **“Feed To All Bins” on page 3-14**
Sensor Test	See **“Sensor Test (standard output bin)” on page 3-15**
Diverter Test (if 5-bin installed)	See **“Diverter Test” on page 3-16**
FINISHER TESTS (if installed)	
Staple Test	See **“Staple Test” on page 3-17**
Feed Tests	See **“Feed Tests (finisher)” on page 3-17**
Sensor Test	See **“Sensor Test (finisher)” on page 3-17**
BASE SENSOR TEST	See **“BASE SENSOR TEST” on page 3-18**
Toner	
Input	
Output	
DEVICE TESTS	
Quick Disk Test (if installed)	See **“Quick Disk Test” on page 3-18**
Disk Test/Clean (if installed)	See **“Disk Test/Clean” on page 3-19**
Flash Test (if installed)	See **“Flash Test” on page 3-19**
PRINTER SETUP	
Defaults	See **“Defaults” on page 3-20**
Page Count	See **“Page Count” on page 3-20**
Perm Page Count	See **“Perm Page Count (permanent page count)” on page 3-20**
Serial Number	See **“Serial Number” on page 3-20**
Envelope Enhance	See **“Envelope Enhance” on page 3-20**
Engine Setting 1 through 4	See **“Engine Setting 1 through 4” on page 3-20**
Model Name	See **“Model Name” on page 3-20**
Configuration ID	See **“Configuration ID” on page 3-21**
Edge to Edge	See **“Edge to Edge” on page 3-21**
Par *S* Strobe Adj	See **“Parallel strobe adjustment (Par x Strobe Adj)” on page 3-21**
Par *x* Strobe Adj (if additional parallel options are installed)	

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Diagnostics mode tests (continued)

EP SETUP	
EP Defaults	See **“EP Defaults” on page 3-22**
Fuser Temp	See **“Fuser Temperature (Fuser Temp)” on page 3-22**
Fuser Page Count	See **“Fuser Page Count” on page 3-22**
Warm Up Time	See **“Warm Up Time” on page 3-22**
Transfer	See **“Transfer” on page 3-22**
Print Contrast	See **“Print Contrast” on page 3-22**
Charge Roll	See **“Charge Roll” on page 3-22**
Gap Adjust	See **“Gap Adjust” on page 3-22**
EVENT LOG	
Display Log	See **“Display Log” on page 3-23**
Print Log	See **“Print Log” on page 3-23**
Clear Log	See **“Clear Log” on page 3-24**
EXIT DIAGNOSTICS	

Exiting Diagnostics mode

Select **Exit Diagnostics** to exit the Diagnostics mode. `Resetting the Printer` displays, the printer performs a POR, and returns to normal mode.

REGISTRATION

Print registration makes sure the printing is printed properly aligned on the page.

The settings available are:

Bottom Margin
Top Margin
Left Margin
Right Margin
Quick Test

To set print registration:

1. Select **REGISTRATION** from the DIAGNOSTICS menu.
2. Select Quick Test, and press ✓.

   To print the Quick Test page:

   a. Press ▼ until the ✔ appears next to `Quick Test`.
   b. Press ✓.
      The message `Quick Test Printing...` appears on the display.

   Retain this page to determine the changes you need to make to the margins settings.

3. Use ▼ or ▲ to select the margin setting you need to change, and press ✓.

   The Top margin sign/value pair blinks. This indicates it is the margin value being changed.

   ```
   T=xxx*        B=xxx*
   L=xxx*        R=xxx*
   ```

4. Use ◀ to decrease or ▶ to increase the offset values, and press ✓ to confirm the value.

   The message `Submitting selection` displays, and the original REGISTRATION screen appears with the ✔ beside the previously selected margin setting.

   The print registration range is:

Variable	Description	Value	Direction of change
B=	Bottom margin	-20 to +20 Each increment causes approximately 0.55 mm shift in the bottom margin.	A positive change compresses the image so it appears to move down the page and a negative change moves the image up.
T=	Top margin	-25 to +25 Each increment causes approximately 4 pels shift (at 600 dpi).	A positive change moves the image down the page and increases the top margin. A negative change moves the image up and decreases the top margin.
L=	Left margin	-25 to +25	A positive change moves the image to the right, and a negative change moves the image to the left. No compression occurs.
R=	Right margin	-10 to +10	A positive change moves the image to the right, and a negative change moves the image to the left.

5. Continue changing the settings by repeating steps 2 through 4.
6. Print another copy of the Quick Test to verify your changes.
7. To exit REGISTRATION, press **Back** (↺).

Quick Test

The Quick Test contains the following information:

- Print registration settings
- Alignment diamonds at the top and bottom
- Horizontal lines to check for skew
- General printer information, including current page count, installed memory, serial number, and code level.

To print the Quick Test page:

Note: Print the Quick Test Page on letter or A4 paper.

1. Select **REGISTRATION** from DIAGNOSTICS.
2. Press ▼ until the ✔ appears next to `Quick Test`.

   The message `Quick Test Printing…` appears on the display.

   Once the Quick Test Page completes printing, the Registration screen displays again.

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PRINT TESTS

Input source tests

The purpose of the diagnostic Print Tests is to verify that the printer can print on media from each of the installed input options. The contents of the Print Test Page varies depending on the media installed in the selected input source.

Check each Test Page from each source to assist in print quality and paper feed problems.

To run the Print Test Page:

1. Select **PRINT TESTS** from the Diagnostics menu.
2. Select the media source.

   Tray 1
   Tray 2 (if installed)
   Tray 3 (if installed)
   Tray 4 (if installed)
   Tray 5 (if installed)
   Multipurpose Feeder (if installed)
   Envelope Feeder (if installed)
3. Select **Single** or **Continuous**.
   - If **Single** is selected, a single page is printed.
   - If **Continuous** is selected, printing continues until **Stop** ( )is pressed to cancel the test.

     If a source is selected that contains envelopes, an envelope test pattern is printed. If Continuous is selected, the test pattern is printed only on the first envelope.

   Note: The Print Test Page always prints on one side of the paper, regardless of the duplex setting or the presence of a duplex option.

Press **Back** ( ) to return to PRINT TESTS.

Print quality pages (Prt Quality Pgs)

The purpose of this diagnostic function is to allow printing of the print quality test pages with the toner cartridge lockout function disabled. The print quality pages consist of three pages. Page one contains a mixture of graphics and text. Pages two and three only contain graphics. If duplex is turned on, the pages are duplexed. The Print Quality Test pages are printed in English and must always be printed on letter, legal, or A4 paper.

To run the Print Quality Test Pages, select **Prt Quality Pgs** from PRINT TESTS. The message `Printing Quality Test Pages` is displayed.

Note: The print quality test pages can also be printed from the Configuration menu (CONFIG MENU), however a cartridge must be installed with a machine class ID matching the machine class ID stored in NVRAM. Additional diagnostic information may be printed on the pages when printing from DIAGNOSTICS.

The following is included in the DIAGNOSTICS version of the print quality pages:

- Values from EP SETUP in DIAGNOSTICS, including:

  Fuser temperature, warm up time, transfer, print contrast, and charge roll settings.
- Contents of the EVENT LOG from DIAGNOSTICS.
- Configuration information, including printer serial number, controller code level, engine code level, operator panel code level, font versions, and cartridge information.
- Default values for the QUALITY MENU settings used to print the pages.

HARDWARE TESTS

Select the following Hardware Tests from this menu:

- Panel Test
- Button Test
- DRAM Test
- ROM Memory Test
- Parallel Wrap (if available)
- Serial Wrap (if available)

Panel Test

This test automatically toggles each pixel of the operator panel through every contrast level beginning with the darkest and on to the brightest. This test continues until you press **Stop** ( ).

Button Test

The Button Test verifies the operation of the buttons on the operator panel. When you select Button Test, a diagram of the operator panel appears on the panel. When you press a button on the operator panel, an `X` appears on the corresponding diagram. When you release the button, an `X` disappears. Pressing **Back** ( ) or **Stop** ( ) cancels the test.

DRAM Test

The purpose of this test is to check the validity of DRAM memory, both standard and optional. The test writes patterns of data to DRAM to verify that each bit in memory can be set and read correctly.

To run the DRAM Test:

1. Select **DRAM Test** from the menu.

   The message `DRAM Test Testing…` displays. Then the message `Resetting Printer` appears, and the power indicator light *blinks* red.

2. Turn the printer off and on. While the DRAM test executes, the power indicator *blinks* green.

   The following type of message appears:

   ```
   DRAM Test        xxx MB
   P:######         F:####
   ```

   - xxx represents the installed DRAM size.
   - P:###### represents the number of times the memory test has passed and finished successfully. Initially 000000 displays with the maximum pass count being 999,999.
   - F:##### represents the number of times the memory test has failed and finished with errors. Initially 0000 displays with the maximum fail count being 99,999. Initially only four digits appear, but additional digits appear as needed.

   Each time a test is completed, the number of pass and failures is incremented. If the test fails, the message `Failure` displays for approximately three seconds, and the failure count increases by one.

The test continues until all standard and optional DRAM is tested. Once the maximum pass count or fail count is reached, the test is stopped, the power indicator is turned on solid, and the final results display.

To stop the test before completion, press .

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CACHE Test

This test is used to verify the printer processor cache.

To run the CACHE Test:

1. Select **CACHE TEST** from HARDWARE TESTS.

   The message `CACHE Test Testing...` displays. Then the message `Resetting Printer` appears.
2. The printer automatically performs a Power On Reset (POR). While the CACHE test executes, the power indicator *blinks* green.
   The following type of message appears:

```
CACHE Test x100
P:######          F:####
```

   - P:###### represents the number of times the cache has passed and finished successfully. Initially 000000 displays with the maximum pass count being 999,999.
   - F:##### represents the number of times the cache has failed and finished with errors. Initially 0000 displays with the maximum fail count being 99,999. Initially only four digits appear, but additional digits appear as needed.

   Each time a test is completed, the number of passes and failures is incremented. If the test fails, the message `Failure` displays for approximately three seconds, and the failure count increases by one.

The test continues until all of the printer processor's cache has been tested. Once the maximum pass count or fail count is reached, the test is stopped, the power indicator is turned on solid, and the final results display.

To stop this test before completion, turn the printer off.

Parallel Wrap tests

This test is used with a wrap plug to check operation of the parallel port hardware. Each parallel signal is tested. Use **Parallel Wrap** for the standard parallel port, **Parallel 1 Wrap** if a parallel port is available by PCI slot 1, or **Parallel 2 Wrap** if a parallel port is available by PCI slot 2.

To run the Parallel Wrap tests:

1. Disconnect the parallel interface cable, and install the wrap plug (P/N 1319128).
2. Select **Parallel Wrap, Parallel 1 Wrap, or Parallel 2 Wrap** from the HARDWARE TESTS menu.

   The power indicator *blinks* green indicating the test is in progress. The test runs continuously until a maximum number of tests is reached.

```
Parallel Wrap
P:######          F:####
```

   - P:###### represents the number of times the memory test has passed and finished successfully. Initially 000000 displays with the maximum pass count being 999,999.
   - F:##### represents the number of times the memory test has failed and finished with errors. Initially 0000 displays with the maximum fail count being 999,999. Initially only four digits appear, but additional digits appear as needed.

   Each time the test finishes, the screen updates. If the test passes, the pass counter increases by 1, however if the test fails, a message displays for approximately three seconds. Once the maximum count is reached, the test stops. The power indicator goes on solid, and the final results display.

To stop the test before completion, press **Stop** (⊗).

Serial Wrap tests

The serial wrap tests are used to check the operation of the serial port hardware using a wrap plug. Use Serial 1 Wrap if a serial port is available through PCI slot 1 and Serial 2 Wrap if the serial port is available through PCI slot 2.

To perform the Serial Wrap tests:

1. Disconnect the serial interface cable, and install the serial wrap plug.
2. Select Serial 1 Wrap or Serial 2 Wrap from HARDWARE TESTS.

   The power indicator *blinks* green indicating the test is in progress. The test runs continuously until a maximum number of tests is reached.

   ```
   Serial Wrap…
   P:######          F:####
   ```

   - P:###### represents the number of times the memory test has passed and finished successfully. Initially 000000 displays with the maximum pass count being 999,999.
   - F:##### represents the number of times the memory test has failed and finished with errors. Initially 0000 displays with the maximum fail count being 999,999. Initially only four digits appear, but additional digits appear as needed.

   Each time the test finishes, the screen updates. If the test passes, the pass counter increases by 1, however if the test fails, a message displays for approximately three seconds. Once the maximum count is reached, the test stops. The power indicator goes on solid, and the final results display.

To stop the test before completion, press **Stop** (⊗).The message `Serial Wrap x Test Canceled` displays, and the printer returns to the HARDWARE TESTS menu.

DUPLEX TESTS

Quick Test (duplex)

This test prints a duplex version of the Quick Test that can be used to verify that the correct placement of the top margin on the back side of a duplex page. You can run one duplexed page (**Single**), or continue printing duplexed pages (**Continuous**) until **Stop** (⊗) is pressed. For information about changing the margin, see **“Top Margin (duplex)” on page 3-10**.

Note: Before you set the duplex top margin, be sure to set the registration. See **“REGISTRATION” on page 3-4**.

The paper you choose to print the page on should be either Letter or A4.

To run the Quick Test (duplex):

1. Select **Quick Test** from DUPLEX TESTS.
2. Select **Single** or **Continuous**.
   - The single Duplex Quick test cannot be canceled.
   - The printer attempts to print the Quick Test Page from the default paper source. If the default paper source only supports envelopes, then the page is printed from Tray 1.
   - Check the Quick Test Page for the correct offset between the placement of the first scan line on the front and back side of a duplexed sheet.

The single test stops automatically when a single duplex sheet is printed, and the continuous test continues until you press **Stop** (⊗).

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Top Margin (duplex)

This setting controls the offset between the first scan line on the front of the duplex page and the first scan line on the back of the page. Therefore, be sure to set the top margin in REGISTRATION before setting the duplex top margin. See **“REGISTRATION” on page 3-4**.

To set the Top Margin (duplex):

1. Print the Quick Test (duplex):
   a. Select **Quick Test** from DUPLEX TESTS.
   b. Select **Single**.
   c. Hold the page to the light to see the whether the top margin of the backside aligns with the top margin of the frontside.
2. Select **Top Margin** from DUPLEX TESTS.
3. Use ▼ or ▲ to select the margin setting you need to change.
   - Each increment shifts the duplex top margin by 1/100 of an inch.
   - The Top Margin (duplex) range is -20 to +20, and the default value is 0.
   - An increase moves the top margin down and widens the top margin. A decrease moves the top margin upward and narrows the top margin.
4. Press ✓.
5. Print the Quick Test (duplex) again to verify the adjustment. Repeat if necessary.

Sensor Test (duplex)

This test is used to determine whether or not the duplex sensors and switches are working correctly. The test allows you to actuate the duplex input sensor located in the back part of the duplex unit and the duplex exit sensor located in the return paper path.

1. Select **Sensor Test** from DUPLEX TESTS.

   The message `Sensor Test Testing` displays.
2. Manually actuate each of the duplex sensors. When the sensor/switch is closed, `CL` (closed) displays, and when the sensor/switch is open, `OP` (open) displays.
   - Duplex input sensor
   - Duplex exit sensor
3. Press **Back** (↺) or **Stop** (✕) to exit the test.

Motor Test (duplex)

This test lets you test the duplex option paper feed drive system, and verify that the power and velocity values are acceptable. The duplex runs the DC motor at high speed and low speed, taking an average of the power (PWM) required for each speed and calculating the KE value.

To run the Motor Test (duplex):

1. Select **Motor Test** from DUPLEX TESTS.

   The power indicator light *blinks,* and the message `Motor Test Testing` displays.

2. When the motor stops, the results are displayed.

   `DUPLEX MOTOR` *AA BB CC DD EE FF*

   - AA—00 indicates success, and any other value indicates failure.
   - BB—average PWM for the high speed portion of the test. The results should be in the range of 20 through 3F inclusively (hex)
   - CC—average PWM for the low speed portion of the test The results should be in the range of 3A through 5D inclusively (hex)
   - *DD*—minimum PWM for the low speed portion of the test. The results should be in the range of 11 through 1F inclusively (hex)
   - Ignore bytes *EE* and *FF*.

If the test fails, remove the drive belt from the duplex DC motor, and run the motor test again. For the duplex DC motor to pass the test, the following results must display:

- AA = 00
- BB = in the range of 29 through 3E inclusively (hex)
- CC = in the range of 35 through 51 inclusively (hex)
- DD = in the range of 0C through 13 inclusively (hex)

For the duplex drive system to pass the test, the following results must display:

- AA = 00
- BB = in the range of 29 through 3F inclusively (hex)
- CC = in the range of 3A through 5D inclusively (hex)
- DD = in the range of 11 through 1F inclusively (hex)

3. Press **Back** ( ) or **Stop** ( ) to exit the test.

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Duplex Feed 1

This test feeds a blank sheet of paper to the duplex paper stop position 1. This test can be run using any of the supported paper sizes.

To run the Duplex Feed 1 Test:

1. Select **Duplex Feed 1** from DUPLEX TESTS.

   The power indicator blinks while the paper is feeding, and the message `Duplex Feed 1 Feeding...` displays.

   The message `Duplex Feed 1 Clear Paper` displays when the paper reaches paper stop position 1, and the power indicator turns on solid.

2. Remove the media from the duplex unit, and clear the message on the operator panel by pressing **Back** ( ) or **Stop** ( ).

Duplex Feed 2

This test feeds a blank sheet of paper to the duplex paper stop position 2. This test can be run using any of the supported paper sizes.

To run the Duplex Feed 2 Test:

1. Select **Duplex Feed 2** from DUPLEX TESTS.

   The power indicator blinks while the paper is feeding, and the message `Duplex Feed 2 Feeding...` displays.

   The message `Duplex Feed 2 Clear Paper` displays when the paper reaches the duplex paper stop position 2, and the power indicator turns on solid.

2. Remove the media from the duplex unit, and clear the message on the operator panel by pressing **Back** ( ) or **Stop** ( ).

INPUT TRAY TESTS

Feed Tests (input tray)

This test lets the servicer observe the paper path as media is feeding through the printer. A blank sheet of paper feeds through the printer as the laser turns off during this test. The only way to observe the paper path is to open the lower front door that is used to access the envelope or multipurpose feeder. The paper is placed in the output bin.

To run the Input Tray Feed Tests:

1. Select **Feed Tests** from INPUT TRAY TESTS.
2. Select the input source from the sources displayed on the Feed Tests menu. All installed sources are listed.
3. Select either **Single** or **Continuous**.
   - **Single**—feeds one sheet of media from the selected source.
   - **Continuous—**media continues feeding from the selected source until **Stop** ( ) is pressed.

Sensor Test (input tray)

This test is used to determine if the input tray sensors are working correctly. To run the Input Tray Sensor Test:

1. Select the **Sensor Test** from INPUT TRAY TESTS.
2. Select the input source from the sources displayed on the Sensor Test menu. All installed sources are listed.
3. Select the sensor to test. Various sources have different combinations of sensors. See the table below:

Tray sensor support by source

Source	Empty (Input tray empty sensor)	Low (Input tray paper low sensor)	passThru (Input tray pass thru sensor)
Tray 1	✓	✓	
Tray 2	✓	✓	✓
Tray 3	✓	✓	✓
Tray 4	✓	✓	✓
Tray 5	✓	✓	✓
Multipurpose tray	✓		
Envelope feeder	✓		✓

[*sensor selected*]=`OP` displays.

- Empty—Input tray empty sensor
- Low—Input tray paper low sensor
- passThru—Input tray pass thru sensor

4. Once this message displays, the servicer can manually actuate each sensor. The tray empty sensor can be actuated by hand, however a sheet of paper can be used to cover the pass thru sensor. When the sensor is closed, `Closed` displays; when the sensor is open, `Open` displays.
5. Press **Back** ( ) or **Stop** ( ) to exit the test.

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OUTPUT BIN TESTS

Feed Tests (output bins)

Use these tests to verify that media can be fed to a specific output bin. Media is fed from the default input source to the selected output bin. No information is printed on the media fed to the output bin because the printhead is not engaged during this test. These tests can use any media size or envelope supported by the printer.

Note: If the Configure Bins printer setting is Link rather than Mailbox, the printer selects its own internal bin linking regardless of which output bin is selected for the feed test.

To run the Feed Tests for the output bins:

1. Select **Feed Tests** from the OUTPUT BIN TESTS.
2. Select the output bin you want the paper to exit into. The standard bin as well as any output option bin installed on the printer is shown on the menu. (The output bins are displayed in the order installed on the printer.)
3. Select either **Single** or Continuous.
   - **Single**—feeds one sheet of media from the selected source.
   - **Continuous**—media continues feeding from the selected source until **Stop** ( ) is pressed.

Press **Back** ( ) to return to OUTPUT BIN TESTS.

Feed To All Bins

This test can be used to verify that the printer can feed media to the standard bin or any installed output options. No information will be printed on the test pages, as the printhead is not engaged during the feed test. The media feeds from the default paper source.

To run the Feed To All Bins Test:

Select **Feed To All Bins** from OUTPUT BIN TESTS.

The printer feeds a separate piece of media to the standard bin first, then it feeds a separate piece of media to each output bin installed in the following order:

Order sheets are fed	Output bins	Order sheets are fed	Output bins	Order sheets are fed	Output bins
1	Standard bin	9	Bin #8	17	Bin #5
2	Bin #1	10	Bin #9,	18	Bin #4
3	Bin #2	11	Bin #10	19	Bin #3
4	Bin #3	12	Bin #10	20	Bin #2
5	Bin #4	13	Bin #9	21	Bin #1
6	Bin #5	14	Bin #8	22	Standard bin
7	Bin #6	15	Bin #7		
8	Bin #7	16	Bin #6		

The test is continuous until **Stop** ( ) is pressed.

Press **Back** ( ) to return to OUTPUT BIN TESTS.

Sensor Test (standard output bin)

This test is used to verify if the standard bin sensor is working correctly.

To run the Sensor Test for the standard bin:

1. Select **Sensor Test** from OUTPUT BIN TESTS.
2. Select **Standard Bin** from Sensor Tests.
3. Select **NearFull** or **Full** sensor to test.

   The following screen is displayed:

   ```
   Standard Bin x
   Full=Open  NearFull=Open
   ```

   - Full—Bin full sensor
   - NearFull—Bin near full sensor
4. Manually actuate the bin sensor by moving the flag in and out of the sensor. The display indicates `Open` when the flag is out of the sensor and `Closed` when the flag is in the sensor.
5. Press **Back** ( ) or **Stop** ( ) to exit the test.

Sensor Test (Output Expander)

This test is used to determine whether or not the output bin sensor is working correctly for the output expander, if installed.

1. Select **Sensor Test** from OUTPUT BIN TESTS.
2. Select **Output Bin *x*** (*x*=number of the output option to be tested) from Sensor Tests.

   The following screen is displayed:

   ```
   Output Bin x
   passThru=Open   Full=Open  NearFull=Open
   ```

   - passThru—Pass thru sensor
   - Full—Bin full sensor
   - NearFull—Bin near full sensor
3. Manually actuate each of the output expander sensors, and the display by each sensor toggles from `Open` to `Closed`.
4. Press **Back** ( ) or **Stop** ( ) to exit the test.

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Sensor Test (high capacity output stacker)

1. Select **Sensor Test** from OUTPUT BIN TESTS.
2. Select **Output Bin x** (*x*=number of the output option to be tested).

   The following screen is displayed:

   HC Bin x TP=OPpassThru=Open Full=Open NearFull=Open

   - TP—High-capacity top position sensor
   - passThru—High-capacity pass thru sensor
   - Full—High-capacity bin full sensor (lower part of dual sensor)
   - NearFull—High-capacity bin near full sensor (upper part of dual sensor)
3. Manually actuate each of the sensors of the high-capacity stacker, and the display by each sensor toggles from `Open` to `Closed`.
4. Press **Back** ( ) or **Stop** ( ) to exit the test.

Sensor Tests (5-bin mailbox)

1. Select **Sensor Tests** from OUTPUT BIN TESTS.
2. Select **Output Bin *x*** (*x*=number of the output option to be tested).

   The following screen is displayed:

   Output Bin *x*
   P1=OP P2=OP L=NL

   - passThru—5-bin mailbox pass thru sensor shows `Open` or `Closed`
   - mailboxEmpty—5-bin mailbox empty sensor shows `Normal` for a normal level, `NearFull` for nearly full, and `Full` for full.
3. Manually actuate each of the sensors of the 5-bin mailbox,. The pass thru sensor will indicate Open or Closed and the empty sensor (mailboxEmpty) indicates Normal, NearFull, or Full.
4. Press **Back** () or **Stop** () to exit the test.

Diverter Test

This test verifies the functioning of each of the 5-bin mailbox output media diverters. If more than one 5-bin mailbox is installed, all installed diverters or tested.

To run the Diverter Test, select **Diverter Test** from the OUTPUT BIN TESTS. The test runs once and stops.

FINISHER TESTS

Staple Test

This test verifies the staple mechanism by sending eight sheets of media from the printers default paper source and stapling the sheets.

To run the Staple Test:

1. Select **Staple Test** from FINISHER TESTS.
2. Select the output bin and press ✓.

   While the test runs the power indicator *blinks* and the message `Staple Test Running`... displays. During the test, no buttons are active and the test cannot be cancelled until the test is complete.

Feed Tests (finisher)

This test is used to verify whether or not media can be fed to a finisher output bin. Eight sheets of blank paper are fed from the default paper source and fed to the finisher output bins.

Note: This test can be run using any of the paper sizes supported by the printer.

To run the Feed Test, select **Feed Tests** from FINISHER TESTS. While the feed test runs, the power indicator *blinks*, and the message `Feed Test Running`... displays.

During the test, no buttons are active, and the test cannot be stopped until the test is completed.

Sensor Test (finisher)

This test can be used to verify whether or not the finisher sensors are working correctly.

To run the Finisher Sensor Test:

1. Select **Sensor Test** from FINISHER TESTS.
2. Select one of the four tests to perform:. Each of the tests displays the individual sensors that can be manually actuated, and the display shows `Open` or `Closed`.
   - **Staple Sensors**
     Cartridge Present sensor
     Staple Low sensor
     Self-priming sensor
     Home signal sensor
   - **Cover and Door**
     Finisher top cover sensor
     Side door sensor
   - **Pass and Media**
     Finisher pass thru
     Media sensor
   - **Bin Level**
     Finisher bin empty
     Bin full sensor
     Bin near full
3. Press **Back** (↺) or **Stop** (✕) to exit the test.

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BASE SENSOR TEST

This test is used to determine if the sensors located inside the printer are working correctly.

To run the Base Sensor Test:

1. Select **BASE SENSOR TEST** from the DIAGNOSTICS menu.

   The following sensors are listed:

   - Exit—Exit sensor
   - Front Door—Front door sensor
   - Input—Input sensor
   - NarrowMedia—Output (exit) sensor
   - Toner Level—Toner level sensor (remove the cartridge and replace to actuate the sensor)

2. Manually actuate the sensors to verify that each sensor switches from `Open` to `Closed`.
3. Press **Back** ( ) or **Stop** ( ) to exit the test.

DEVICE TESTS

Quick Disk Test

This test performs a non-destructive read/write on one block per track on the disk. The test reads one block on each track, saves the data, and proceeds to write and read four test patterns to the bytes in the block. If the block is good, the saved data is written back to the disk.

To run the Quick Disk Test:

1. Select **Quick Disk Test** from DEVICE TESTS.

   The power indicator blinks while the test is in progress, and quick `Disk Test Testing`... displays.

   - `Quick Disk Test/Test Passed` message displays if the test passes, and the power indicator turns on solid.
   - `Quick Disk Test/Test Failed` message displays if the test failed, and the power indicator turns on solid.

2. Press **Back** ( ) or **Stop** ( ) to return to the Device Tests menu.

Disk Test/Clean

Warning: This test destroys all data on the disk and should not be attempted on a good disk. Also note that this test may run approximately 1½ hours depending on the disk size.

To run the Disk Test/Clean Test:

1. Select **Disk Test/Clean** from the Device Tests menu.

   `Files will be lost/Go or Stop?` message displays to warn the user that all contents on the disk will be lost.

2. To exit the test immediately and return to the Device Tests menu, press **Back** ( ) or **Stop** ( ). To continue with the test, press .

   If is selected, the following screen displays and updates periodically indicating the percentage of test completed.

   ```
   Formatting Disk
   1/1          0%
   DO NOT POWER OFF
   ```

   The power indicator blinks during the test.

   Note: The test can NOT be canceled.

3. Once the test is complete, the power indicator turns on solid, and either the message `Disk Test/Clean Test Passed` or `Disk Test/Clean Failed` appears. If the message indicates failure, the disk is unusable.

Flash Test

This test verifies the functioning of the flash device by writing and reading data on the flash to test the flash.

Warning: This test destroys all data on the flash because the flash is unformatted at the end of the test. To reformat the flash, the servicer or the user must use FORMAT FLASH from the UTILITIES MENU.

To run the Flash Test:

1. Select **Flash Test** from DEVICE TESTS.

   The message `Files will be lost/Go or Stop?` displays to warn the user that all contents on the flash device will be lost.

2. To exit the test immediately and return to the Device Tests menu, press **Back** ( ) or **Stop** ( ). To continue with the test, press .

   The power indicator blinks while the test is running, and the message `Flash Test Testing...` displays.

   Once the test is complete, the power indicator turns on solid, and either the message `Flash Test Test Passed` or `Flash Test Test Failed` displays.

3. Press **Back** ( ) or **Stop** ( ) to return to DEVICE TESTS.

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PRINTER SETUP

Defaults

US/Non-US defaults changes whether the printer uses the US factory defaults or the non-US factory defaults. The settings affected include paper size, envelope size, PCL symbol set, code pages, and units of measure.

Warning: Changing this setting resets the printer to factory defaults, and data may be lost. It cannot be undone.

Page Count

The page count can only be viewed and cannot be changed.

To view the page count:

1. Select **Page Count** from PRINTER SETUP.
2. Press **Back** ( ) to return to PRINTER SETUP.

Perm Page Count (permanent page count)

The permanent page count can only be viewed and cannot be changed.

To view the permanent page count:

1. Select **Perm Page Count** from PRINTER SETUP.
2. Press **Back** ( ) to return to PRINTER SETUP.

Serial Number

The serial number can only be viewed and cannot be changed.

To view the serial number:

1. Select **Serial number** from PRINTER SETUP.
2. Press **Back** ( ) to return to PRINTER SETUP.

Envelope Enhance

This setting affects the level of the fuser solenoid.

To set Envelop Enhance:

1. Select **Envelope Enhance** from PRINTER SETUP.
2. Select **Low**, **Medium**, or **High**. The default is Medium.
3. Press **Back** ( ) to return to PRINTER SETUP.

Engine Setting 1 through 4

Warning: Do not change these settings unless requested to do so by your next level of support.

Model Name

The model name can only be viewed and cannot be changed.

Configuration ID

The two configuration IDs are used to communicate information about certain areas of the printer that cannot be determined using hardware sensors. The configuration IDs are originally set at the factory when the printer is manufactured, however the servicer may need to reset Configuration ID 1 or Configuration ID 2 whenever you replace the system board. The IDs consist of eight hexadecimal characters, including 0 through 9 and A through F.

Note: When the printer detects a Configuration ID that is not defined or invalid, the following occurs:

- The default standard model Configuration ID is used instead.
- Configuration ID is the only function available in DIAGNOSTICS.
- Unless the menu is in DIAGNOSTICS, `Check Config ID` displays.

To set the configuration ID:

1. Select **Printer Setup** from the Diagnostic mode.
2. Select **Configuration ID** from the Printer Setup menu.

   `Submitting Selection` displays, followed by the value for Configuration ID 1.
3. Enter the Configuration ID 1.
   - To select a digit or character to change, press ◀ or ▶ until the digit or character is underlined.
   - To change a digit or character, press ▲ to increase or ▼ to decrease the value.
   - When the last digit is changed, press ✓ to validate the Configuration ID 1.

     If `Invalid ID` appears, the entry is discarded, and the previous Configuration ID 1 is displayed on the screen.

     If the process is successful, `Submitting Selection` appears on the display, followed by the current value for Confirguration ID 2.
4. Repeat the steps for entering the Configuration ID, and press ✓.

   If the Configuration ID 2 is validated, `Submitting Selection` appears, and a check (✔) appears next to **Printer Setup**.
5. Restart the printer.

Edge to Edge

When this setting is On, the text and graphics are shifted to the physical edges of the paper for all margins. When the setting is Off, the normal margins are restored.

Parallel strobe adjustment (Par x Strobe Adj)

This setting adjusts the amount of time the strobe is sampled in order to determine if the valid data is available on the parallel port. The range of values are from -4 to 6, and the default is 0 for **Par S Strobe Adj**, **Par 1 Strobe Adj**, and **Par 2 Strobe Adj**. After adjustment of 1 increment, the strobe samples 50 ns longer.

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EP SETUP

EP Defaults

This setting is used to restore each printer setting listed in EP SETUP to its factory default value. Sometimes this is used to help correct print quality problems.

To restore EP Defaults:

1. Select **EP Defaults** from EP SETUP.
2. Select **Restore** to reset the values to the factory settings, and select **Do Not Restore** to exit without changing the settings.

Fuser Temperature (Fuser Temp)

This adjustment can be used to help solve some customer problems with paper curl on low grade papers and problems with letterheads on some types of media.

The fuser temperature can be adjusted to: Normal, Lower, Lowest. The default is Normal.

Fuser Page Count

The fuser page count can only be viewed and cannot be changed.

To view the Fuser Page Count:

1. Select **Fuser Page Count** from EP SETUP.
2. Press **Back** ( ) to return to PRINTER SETUP.

Warm Up Time

You can change the amount of time the printer warms up before allowing pages to print by changing this setting from 0 to 5. The factory sets the warm up at 0 or no warm up time. This time period lets the backup roll heat up and helps reduce curl in some environments.

Transfer

The transfer can be adjusted to Low, Medium, or High. The default setting is Medium.

Print Contrast

The print contrast setting controls the developer voltage offset.

The print contrast can be adjusted to Low, Medium, or High. The default setting is Medium.

Charge Roll

The charge roll can be adjusted to Low, Medium, or High. The default setting is Medium.

Gap Adjust

The setting adjusts the minimum gap between sheets. Increasing this value may reduce curl of some printed media and eliminate some output bin stacking problems. However, increasing this value also results in slower overall performance, measured in pages per minute. The range of values is 0 to 255, and the default value is 0.

EVENT LOG

Display Log

The event log provides a history of printer errors. It contains the 12 most recent errors that have occurred on the printer. The most recent error displays in position 1, and the oldest error displays in position 12 (if 12 errors have occurred). If an error occurs after the log is full, the oldest error is discarded. Identical errors in consecutive positions in the log are entered, so there may be repetitions. All 2*xx* and 9*xx* error messages are stored in the event log.

To view the event log:

1. Select **Display Log** from EVENT LOG.

   Up to three error codes display at a time. Press ▲ or ▼ to view additional error codes.

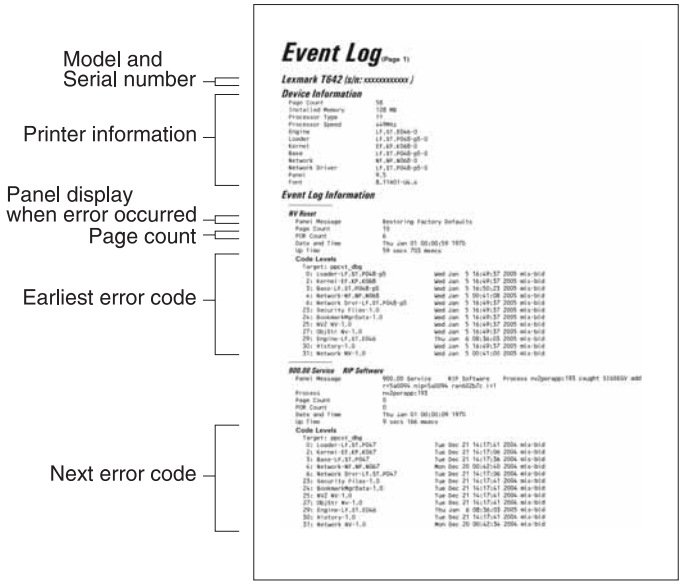
2. Press **Back** ( ) to return to the EVENT LOG menu.

Print Log

Additional diagnostic information is available when you print the event log from DIAGNOSTICS rather than CONFIG MENU.

The Event Log printed from DIAGNOSTICS includes:

- Detailed printer information, including code versions
- Time and date stamps
- Page counts for most errors
- Additional debug information in some cases



The printed event log can be faxed to Lexmark or your next level of support for verification or diagnosis.

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To print the event log:

Select **Print Log** from EVENT LOG.

Press **Back** ( ) to return to EVENT LOG.

Clear Log

Use Clear Log to remove the current information in the Event Log. This affects both the viewed log and the printed log information.

1. Select **Clear Log** from the Event Log menu.
2. Select **YES** to clear the Event Log or **NO** to exit the Clear Log menu. If **YES** is selected, `Deleting EVENT LOG` displays on the screen.

Press **Back** ( ) to return to EVENT LOG.

EXIT DIAGNOSTICS

This selection exits Diagnostics mode, and `Resetting the Printer` displays. The printer performs a POR, and the printer returns to normal mode.

Configuration menu (CONFIG MENU)

Entering Configuration Menu

1. Turn off the printer.
2. Press and hold ✓ and ▶.
3. Turn on the printer.
4. Release the buttons when `Performing Self Test` displays.

   The message `CONFIG MENU` displays on the top line of the operator panel.

Available menus

Maint Cnt Value	See **“Maintenance page count (Maint Cnt Value)” on page 3-25**
Reset Maint Cnt	See **“Maintenance page counter reset (Reset Maint Cnt)” on page 3-26**
Prt Quality Pgs	See **“Print quality pages (Prt Quality Pgs)” on page 3-26**
SIZE SENSING	See **“SIZE SENSING” on page 3-27**
Panel Menus	See **“Panel Menus” on page 3-27**
PPDS Emulation	See **“PPDS Emulation” on page 3-27**
Download Emuls	See **“Download Emuls” on page 3-27**
Demo Mode	See **“Demo Mode” on page 3-27**
Factory Defaults	See **“Factory Defaults” on page 3-28**
Energy Conserve	See **“Energy Conserve” on page 3-28**
EVENT LOG (print log only)	See **“EVENT LOG” on page 3-28**
Paper Prompts	See **“Paper Prompts” on page 3-28**
Env Prompts	See **“Env Prompts” on page 3-28**
Jobs On Disk	See **“Jobs On Disk” on page 3-28**
Disk Encryption	See **“Disk Encryption” on page 3-28**
Font Sharpening	See **“Font Sharpening” on page 3-29**
LCD Brightness	See **“LCD Brightness” on page 3-29**
LCD Contrast	See **“LCD Contrast” on page 3-29**
Exit Config Menu	

Some menus are not available, depending on the configuration of the printer.

Maintenance page count (Maint Cnt Value)

The current value for the maintenance page counter is displayed. This counter tracks printer usage. A print job containing a single page increments the counter by one and a duplex page by two. At 300,000, the customer is reminded that the printer requires scheduled maintenance. This counter is reset by the servicer after a 80 Scheduled Maintenance message displays and a maintenance kit is installed. See **“Maintenance kit” on page 6-1** for the part number.

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To view the maintenance page count:

1. Select **Maint Cnt Value** from CONFIG MENU.
2. Press ✓ to view the value.

Press **Back** (↺) to return to the main Configuration menu.

Maintenance page counter reset (Reset Maint Cnt)

After scheduled maintenance, the servicer needs to reset the page counter.

To reset the maintenance page count to zero:

Select **Reset Maintenance Count** from the Configuration menu.

The message `Reset Maint Cnt=Reset` displays momentarily. When the reset operation is complete, the menu returns to the Printer Setup Reset Maintenance Count screen.

Print quality pages (Prt Quality Pgs)

The print quality test pages can be printed from either the Diagnostics mode or Configuration Menu (CONFIG MENU). When printed from the Diagnostic mode, additional information is included, and the print cartridge lockout is bypassed. See **“Print quality pages (Prt Quality Pgs)” on page 3-6**. Additional configuration information may be included on the print quality pages which is not included on the print menu page.

To print the Print Quality Test Pages, select **Prt Quality Pgs** from CONFIG MENU. The message `Printing Quality Test Pages` is displayed.

The following is printed:

- Settings from EP SETUP from DIAGNOSTICS:

  Fuser temperature, warm up time, transfer, print contrast, and charge roll settings.
- Contents of the EVENT LOG from DIAGNOSTICS.
- Printer configuration information:

  Printer serial number, controller code level, engine code level, operator panel code level, smart option code levels, font versions, and so on.

  Values for the QUALITY MENU settings used to print the pages.

The print quality test consists of four pages. Page one contains a mixture of graphics and text. Pages two and three only contain graphics. Page four is blank. If duplex is turned on, the pages are duplexed. The Print Quality Test pages are printed in English and must always be printed on letter, legal, or A4 paper.

SIZE SENSING

This setting controls whether the printer automatically registers the size of paper installed in an input source with size sensing.

Paper source	Size sensing
Tray 1 (integrated)	✓
Multipurpose feeder	
250-sheet drawer	✓
500-sheet drawer	✓
2000-sheet drawer	✓
250-sheet duplex	
500-sheet duplex	
Envelope feeder	

When the setting is Auto, every input option equipped with size sensing hardware automatically registers what size media it contains. When the setting is Off, the media size detected by hardware is ignored. The media size can be set by the operator panel or the data stream.

To change the size sensing setting:

1. Select **SIZE SENSING** from the Configuration menu.
2. Select **Auto** or **Off**, and press ✓.

Press **Back** (↺) to exit.

Panel Menus

Settings are **Disable** and **Enable**. The default is Enable.

PPDS Emulation

This menu item allows the user to enable or disable PPDS emulation data stream. When this setting is enabled, the following settings are also changed:

- SmartSwitch settings for each port are turned off.
- The printer language is changed to PPDS Emulation.

Users can still switch languages on the operator panel and through the PJL data stream.

Download Emuls

Demo Mode

There is a built-in demonstration mode. The settings allow you to **Deactivate** to turn off the demo mode and **Activate** to turn it on. While Demo Mode is set, the printer will start in Demo Mode until you change the setting.

Warning: While Demo Mode is set to **Activate**, only demonstration files can print, and files received across the network or from the host computer are ignored.

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Factory Defaults

This setting enables a user to restore all the printer settings to the original factory settings. Selections are **Restore Base** and **Restore Network**. Network does not appear unless you have a network printer. The following settings are not changed:

- Display language
- Settings in the NETWORK/PORTS MENU group.

Energy Conserve

This menu controls what values appear on the Power Saver menu. If **Off** is selected in Energy Conserve menu, then Disabled appears in the Power Saver menu and Power Saver can be turned off. If **On** is set in Energy Conserve, the Power Saver feature cannot be disabled.

EVENT LOG

The event log provides a history of printer errors. The event log can only be printed in CONFIG MENU. Additional options are available in DIAGNOSTICS. See **"EVENT LOG" on page 3-23**.

To print the event log:

1. Select **Print Log** from EVENT LOG.
2. Press **Back** ( ) or **Stop** ( ) to return to EVENT LOG.

Note: An event log printed from the CONFIG MENU will not contain debug information or secondary codes for 900 service errors. However, the event log printed from DIAGNOSTICS mode does include this information.

Paper Prompts

When a tray is out of the indicated paper size, a prompt is sent to the user to load paper in a tray. This setting controls the tray the user is directed to fill. Selections are **Auto** (default), **MP Feeder**, and **Manual Paper**.

Env Prompts

This setting controls the tray the user is directed to refill when specific envelope size is out. The selections are **Auto** (default), **MP Feeder**, and **Manual Env**.

Jobs On Disk

If the hard disk is installed, Jobs On Disk allows the user to delete buffered jobs saved on the disk. The values are **Delete** and **Do Not Delete**.

Disk Encryption

If a hard disk is installed, Disk Encryption selects whether the data on the disk is encrypted or not. The values are **Disable** and **Enable**.

Warning: Whenever this value is changed, data on the hard disk is erased.

Font Sharpening

This setting allows a user to set a text point size below which the high frequency screens are used when printing font data. For example, at the default 24, all text in font sizes 24 and less will use the high frequency screens. The values for this setting range from 0 to 150, and the default value is 24. This setting affects PostScript, PCL, and XL.

To change the value, select Font Sharpening from the CONFIG MENU, and use ◀ to decrease the value and ▶ to increase the value. Select ✓ to accept the value.

LCD Brightness

This setting allows the user to increase or decrease the brightness of the operator panel LCD. When the value is increased, the backlight shines brighter, and when the value is decreased, the backlight is dimmer. The operator panel responds immediately to the changes. Use ◀ to decrease the value and ▶ to increase the value. The values range from 1 to 10, and 5 is the default value.

LCD Contrast

When this setting is selected, the operator panel displays a gray bar with a slider representing the values. As the values are decreased, the bar appears darker, and when the values are increased, the bar appears lighter. Changes to this setting immediately change the operator panel. The range of values is between 1 and 10, and the default value is 5.

Exit Config Menu

Press ✓ to exit the CONFIG MENU. The message `Resetting the Printer` displays, and the printer performs a POR and restarts in normal mode.

Additional useful menu locations

User menus are available from the Ready state by pressing **Menu** (🔑).

Hex Trace

To turn Hex Trace on:

1. Press **Menu** (🔑) to display `Menus`.
2. Press ▼ until the ✔ appears next to `Settings`.
3. Press ✓.
4. Press ▼ until the ✔ appears next to `Utilities Menu`.
5. Press ✓.
6. Press ▼ until the ✔ appears next to `Hex Trace`.
7. Press ✓.
8. Press ✓ again to select **Activate,** or press **Back** (↺) to return to Utilities Menu without activating Hex Trace.

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Menu settings page

You can print a menu settings page to review the default printer settings and to verify your printer options are installed correctly.

1. Press **Menu** ( ) to display `Menus`.
2. Press ▼ until the ✔ appears next to `Reports`.
3. Press ✓.
4. Press ▼ until the ✔ appears next to `Menu Settings Page`.
5. Press ✓.

   The message `Printing Menus Settings` appears on the display.

   The printer returns to the Ready state after the menu settings page prints.

Printing menu settings page

Note: This test page must be printed on letter, legal, or A4 paper.

To print the Menu Settings Page:

1. Select the **TESTS MENU**.
2. Select **Print Menus** from the TESTS MENU.

The page contains the following information:

- A list of all the printer settings contained in the operator panel menus and their values.
- A list of the installed options and features such as RAM memory cards, optional input paper trays, envelope feeder, duplex option, output bins, flash, or disk.
- Printer information such as serial number, page count, installed RAM, engine code level, RIP code level, envelope feeder code level, tray 1–5 code levels, output bin 1–3 code levels, operator panel code levels, font ROM version, and SRAM availability.

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Theory

Autocompensator operation

The autocompensator is a paper pick device that generates its own normal force. This force generation is inherent in the fundamental design of the pick arm. If light media is used, it picks very gently. If a heavy media is used, it picks very aggressively. No customer adjustments are necessary, therefore no special trays are needed for card stock or labels. The gearing in the arm is designed so the input torque from the motor produces a movement about the pivot of the arm. This movement produces a downward force at the pick rolls. The friction between the pick roll and the paper produces a frictional locking condition. If the paper is physically held and not allowed to feed, then the motor stalls. Slippage between the roll and the paper is theoretically impossible. When the motor is energized, the pick rolls are driven down into the stack, increasing the normal force and drive force until the bending strength of the paper is overcome and the paper bends and moves up the dam.

Once this critical threshold is achieved, the normal force remains at a level just high enough to reliably feed the paper. Rather than having a fixed spring force for feeding all weights of paper like the D-roll, this device has its own mechanical logic for producing only enough pick energy to feed a single sheet of paper regardless of its stiffness. High normal force is one of the most significant contributors to double feeding paper. The pick arm is counterbalanced by an extension spring located on the pick arm to reduce weight in the rest state. This spring is factory set to exert no more than ten to fifteen grams on the stack. This is as light as can be realistically set and always guarantee there is some force to start the autocompensating phenomena. This spring is not to be considered an adjustment for feeding problems unless it is obvious that the pick arm cannot fall all the way down to the bottom of the tray or has come loose. Poor gear efficiency can cause the arm to generate higher than normal forces. If the pick assembly is noisy, replacement may be required. The arm must pivot freely through its full range of motion. On 500-sheet trays, there are wrap springs located on the pivot arbors of the arm. These springs help prevent the arm from bouncing. If the arm appears to be binding or sticky near the bottom of the tray, these springs may be the problem. Reducing the tension on the counterbalance spring may be used as a temporary fix to get additional weight at the bottom, until the pick assembly can be replaced. However, the counterbalance spring is not to be considered an adjustment for feeding problems.

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Autoconnect system, paper tray options, envelope feeder—electrical

Autoconnect cabling and connectors

The printer options make electrical connection automatically, requiring no external cables when the option is mechanically installed under the printer. Communication between the option and the base printer stops when you remove an option. The printer no longer recognizes the option and deletes associated messages. Each installed option below the base printer provides an electrical autoconnect to the option attached below it. We do not recommend to attach or “Hot Plug” any options with the base printer power turned on.

Duplex Option

The duplex option interface is a six pin autoconnector that provides a +24 V dc, +24 V dc return, serial interface transmit signal, serial interface receive signal, and two ground pins. The duplex option receives the +24 V dc from the base printer for the duplex motors and also converts the voltage to +5 V dc for duplex electronics.

Duplex chassis grounding is provided from the printer to the duplex option through a ground spring attached to the frame and base of the printer. The ground connection is automatically made when the option is installed below the printer.

The paper input sensor is located in the rear of the duplex option under the input paper guide. The paper exit sensor is located on the left frame assembly.

Option microcode

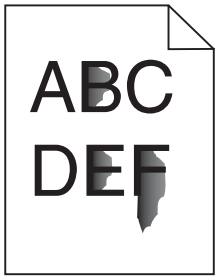
The options are “Smart Options” or options that have a system board. The option system board has a microprocessor that controls the option mechanism. A software architecture is provided that controls the option and communicates information such as paper path status, sensor status, motor status, and so on to the base printer.

Print quality troubleshooting

To help isolate print quality problems, print the “Print defects guide” and check for repeating defects. If repeating defects are not appearing, print the Print Quality Test Pages.

1. Turn the printer off.
2. Hold down ✓ and ▶, and turn the printer on.
3. Press ▼ until **Prt Quality Pgs** is selected, and then press ✓.
   The pages are formatted. The `Printing Quality Test Pages` message appears, then the pages print. The message remains on the operator panel until all the pages print.
   After the Print Quality Test Pages print, to exit the Config Menu:
4. Press ▼ until `Exit Config Menu` is selected, and then press ✓.
   The messages `Resetting Printer` and `Performing Self Test` appear, and the printer returns to `Ready`.

If another type of print quality problem exists, see the Troubleshooting chapter in the *User's Guide* on the publications CD.

Problem	Action
Print is too light. 	• The toner may be low. To utilize the remaining toner, remove the cartridge by gripping the handles with both hands. With the cartridge arrows pointing downward, firmly shake the print cartridge side-to-side and front-to-back several times to redistribute the toner. Reinstall the cartridge and then press ✓. Repeat this procedure multiple times until the print remains faded. When the print remains faded replace the print cartridge. • Change the **Toner Darkness** setting in the Quality menu. • Change the **Brightness** setting in the Quality menu. • Change the **Contrast** setting in the Quality menu. • If you are printing on an uneven print surface, change the Paper Weight and Paper Texture settings in the Paper menu. • Verify the correct print media is being used. • Verify you are using the correct printer drivers.
Toner smears or print comes off the page. 	• If you are printing on an uneven print surface, change the Paper Weight and Paper Texture settings in the Paper menu. • Verify the print media is within the printer specifications. See **“Media specifications” on page 1-8** for more details.
Toner appears on the back of the printed page.	Toner is on the transfer roll. To help prevent this, do not load print media that is smaller than the page size of the job to be printed. Open and close the printer top front cover to run the printer setup cycle and clean the transfer roll.

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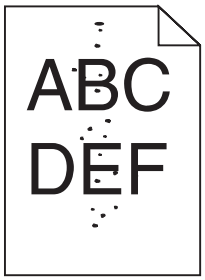
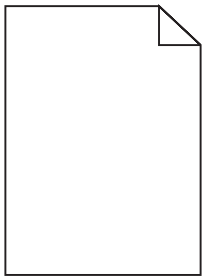
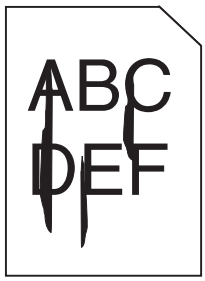
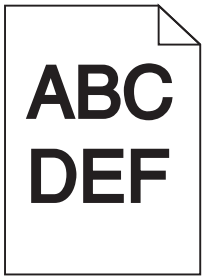
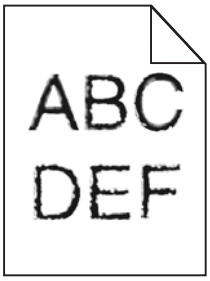
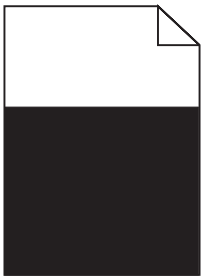
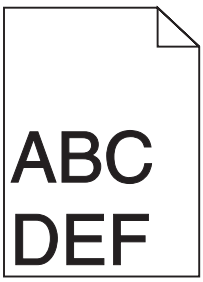
Problem	Action
Toner fog or background shading appears on the page. 	• Check the print cartridge to make sure it is installed correctly. • The **Toner Darkness** setting may be too dark. Change the **Toner Darkness** setting in the Quality Menu. • Replace the charge rolls. • Replace the print cartridge.
Entire page is white. 	• Make sure the packaging material is removed from the print cartridge. • Check the print cartridge to be sure it is installed correctly. • The toner may be low. To utilize the remaining toner, remove the cartridge by gripping the handles with both hands. With the cartridge arrows pointing downward, firmly shake the print cartridge side-to-side and front-to-back several times to redistribute the toner. Reinstall the cartridge and then press ✓. Repeat this procedure multiple times until the print remains faded. When the print remains faded replace the print cartridge.
Streaks appear on the page. 	• The toner may be low. To utilize the remaining toner, remove the cartridge by gripping the handles with both hands. With the cartridge arrows pointing downward, firmly shake the print cartridge side-to-side and front-to-back several times to redistribute the toner. Reinstall the cartridge and then press ✓. Repeat this procedure multiple times until the print remains faded. When the print remains faded replace the print cartridge. • If you are using preprinted forms, make sure the ink can withstand temperatures of 230°C (446°F).
Printing is too dark. 	• Change the **Toner Darkness** setting in the Quality menu. • Change the **Brightness** setting in the Quality menu. • Change the **Contrast** setting in the Quality menu. **Note:** Macintosh computer users should make sure the job lines per inch (lpi) setting is not set too high in the software application.

Problem	Action
Characters have jagged or uneven edges. 	• Change the **Print Resolution** setting in the Quality menu to 600 dpi, 1200 Image Q, 1200 dpi, or 2400 Image Q. • Enable Enhance Fine Lines. See the tables on page **"Quality menu operator panel options" on page 3-36** for more settings information. • If you are using downloaded fonts, verify the fonts are supported by the printer, the host computer, and the software application. • Verify the print media type and print tray type settings match. • Verify you are using the correct printer drivers.
Part or all of the page is printed in black. 	Check the print cartridge to see if it is installed correctly.
The job prints, but the top and side margins are incorrect. 	• Make sure the **Paper Size** setting in the Paper menu is correct. • Make sure the margins are set correctly in your software application.
Ghost images appear.	• Make sure the **Paper Type** setting in the Paper menu is correct. • Replace the charge rolls. • Replace the print cartridge. • Replace the photoconductor kit.
Some of the print is cut off on the sides, top, or bottom of the media. Print is skewed or inappropriately slanted.	Move the guides in the tray to the proper positions for the size loaded.
Transparency print quality is poor.	• Use only transparencies recommended by the printer manufacturer. • Make sure the **Paper Type** setting in the Paper menu is set to Transparency.

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The quality menu operator panel options can be adjusted to help improve print quality.

Quality menu operator panel options

Menu selection	Purpose	Values	
Print Resolution	To select printed output resolution	600 dpi (default setting) 1200 Image Q 1200 dpi 2400 Image Q	
Toner Darkness	Lightens or darkens printed output and alters toner consumption	1–10	8 is the default setting. Select a lower number to lighten the printed output or save toner.
Brightness	Adjusts the gray value of printed graphics and pictures	-6 – +6	0 is the default setting.
Contrast	Adjusts the contrast of printed graphics and pictures	0–5	0 is the default setting.

In addition, the Enhance Fine Lines and Gray Correction options can be enabled to improve print quality. These settings are available on the driver and on the printer Embedded Web Server (EWS) interface. For more information about these options, see the driver Help.

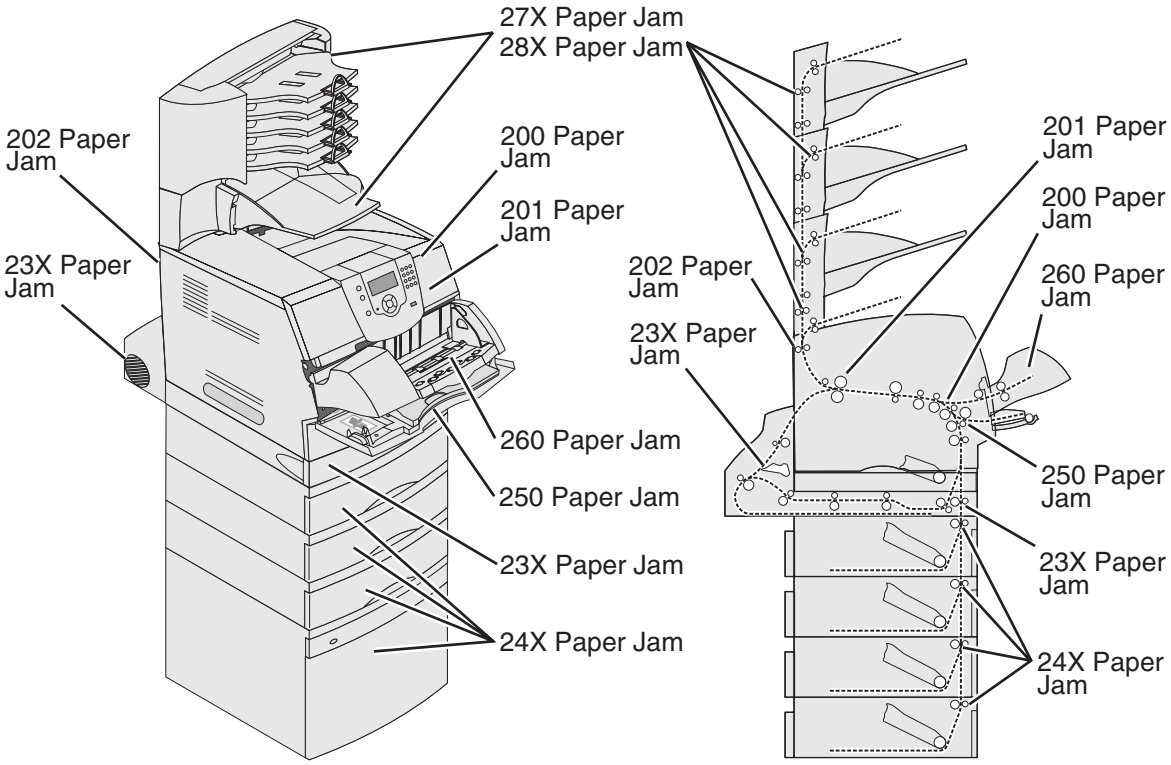
Enhance Fine Lines and Gray Correction options

Driver option	Purpose	Values†	
Enhance Fine Lines	A selection to enable a print mode preferable for certain files containing fine line detail, such as architectural drawings, maps, electronic circuit diagrams, and flow charts	On	In the driver, enable the check box.
		Off*	In the driver, disable the check box.
Gray Correction	Automatically adjusts the contrast enhancement applied to images	Auto	In the driver, enable the check box.
		Off*	In the driver, disable the check box.
High Frequency Text Screening	Improves edge definition of text when printing gray-filled text.	On*	In the driver, enable the check box.
		Off	In the driver, disable the check box.
† Values marked by an asterisk (*) are the factory default settings.			

Paper feed jams

Access doors and trays

The following illustration shows the path that print media travels through the printer. The path varies depending on the input source (trays, multipurpose feeder, envelope feeder) and output bins (finisher, stacker, expander, mailbox) you are using.



Clearing printer jams

Although there are several places a jam can occur, clearing the paper path is fairly easy depending on the jam message or messages displayed on the operator panel.

Paper jams can occur in three areas: the front of the printer, inside the printer, and at the rear of the printer. Jams in the front of the printer occur in the input options or the duplex tray. Jams inside the printer occur in two locations and require the removal of the print cartridge. Jams can also occur at the rear of the printer or in one of the output options.

Note: The following clearing jam instructions may seem out of sequence. However, they have been grouped to help you quickly clear the print path.

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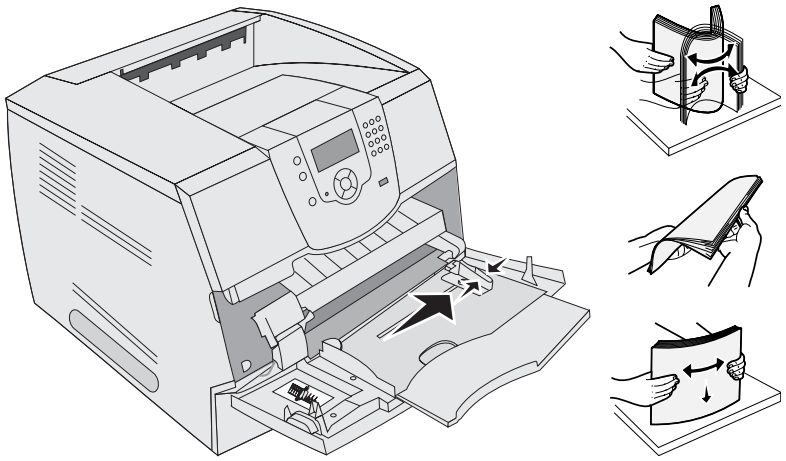
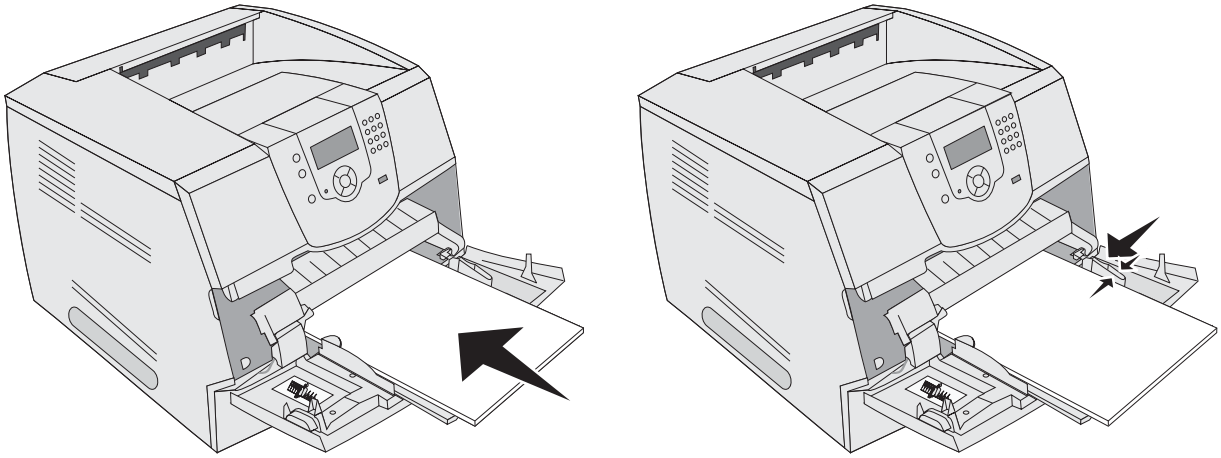
250 Paper Jam Check MP Feeder

1. Remove the paper from the multipurpose feeder.
2. Flex, fan, and restack the media, and place it into the multipurpose feeder.



3. Load the print media.
4. Slide the side guide toward the inside of the tray until it lightly rests against the edge of the media.



5. Press ✓.

260 Paper Jam Check Env Feeder

The envelope feeder feeds envelopes from the bottom of the stack; the bottom envelope will be the one that is jammed.

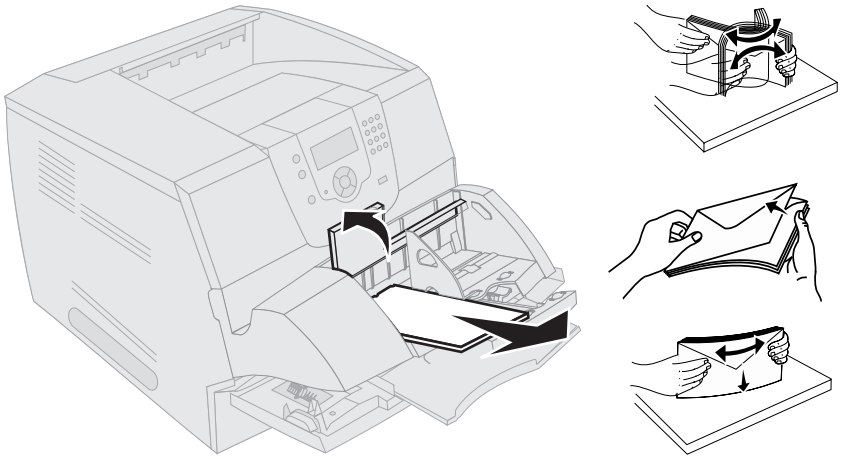
1. Lift the envelope weight.
2. Remove all envelopes.

   If the jammed envelope has entered the printer and cannot be pulled out, remove the envelope feeder.

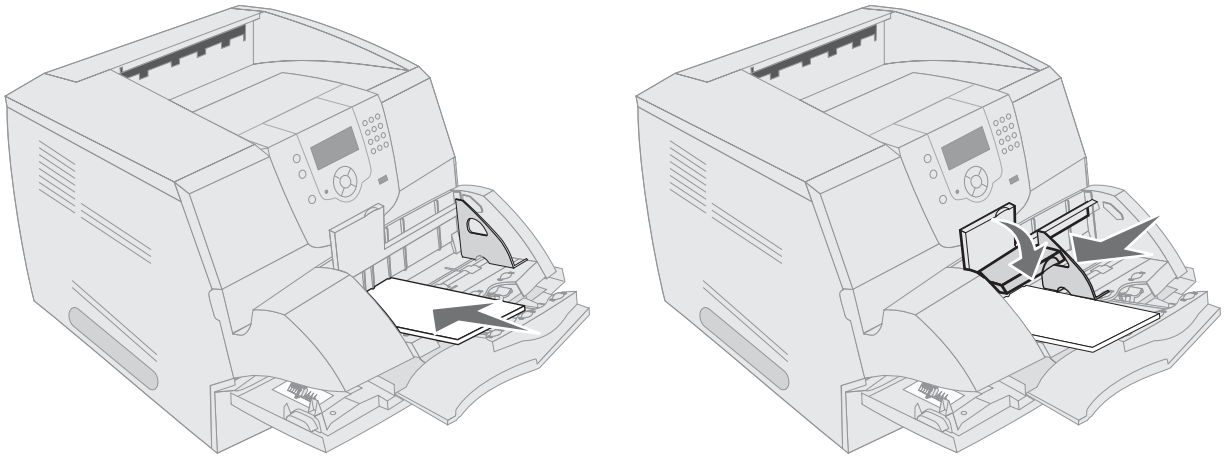
   a. Lift the envelope feeder up out of the printer, and then set it aside.

   b. Remove the envelope from the printer.
   If you cannot remove the envelope, the print cartridge will have to be removed. See **"200 and 201 Paper Jam Remove Cartridge" on page 3-41** for more information.

   c. Reinstall the envelope feeder. Make sure it *snaps* into place.
3. Flex and stack the envelopes.



4. Load the envelope feeder.
5. Adjust the guide.
6. Lower the envelope weight.



7. Press ✓.

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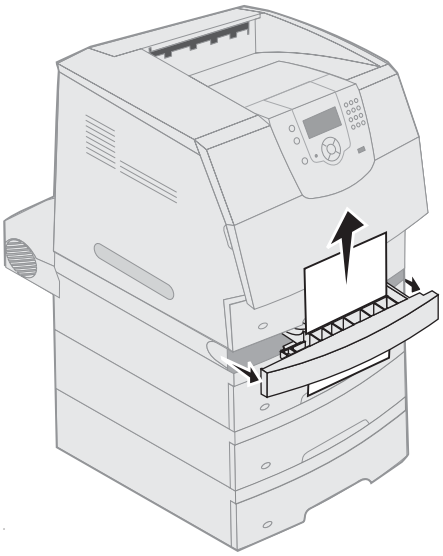
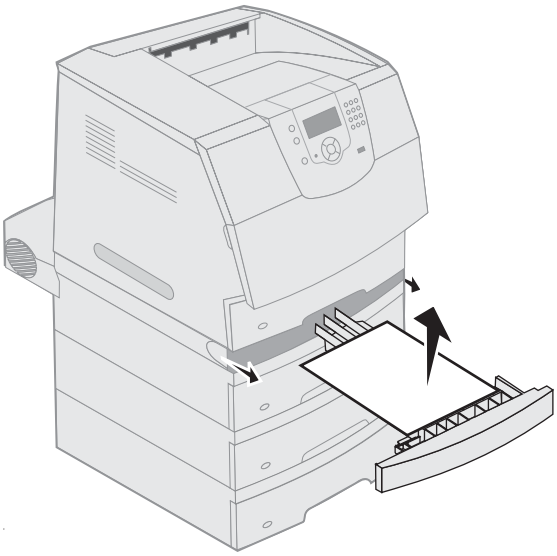
23x and 24x jams

Paper jams in these areas can occur on the incline surface of a tray or across more than one tray. To clear these areas:

1. Open the printer paper tray, and remove any jammed media.
2. Open the duplex tray.

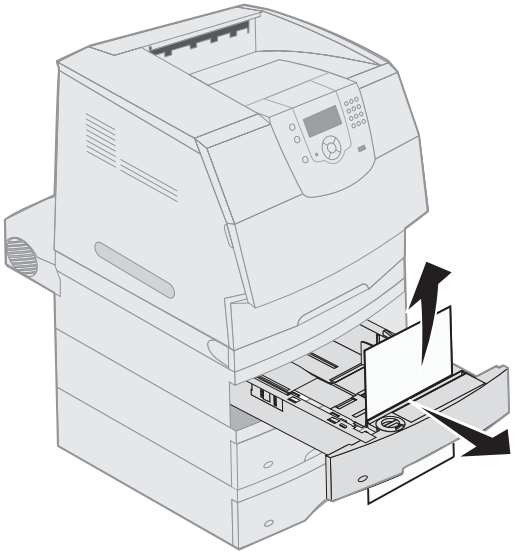
   To remove the media, pull up.

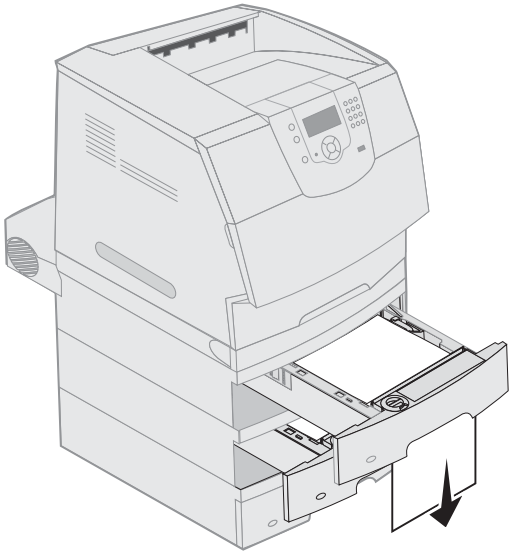




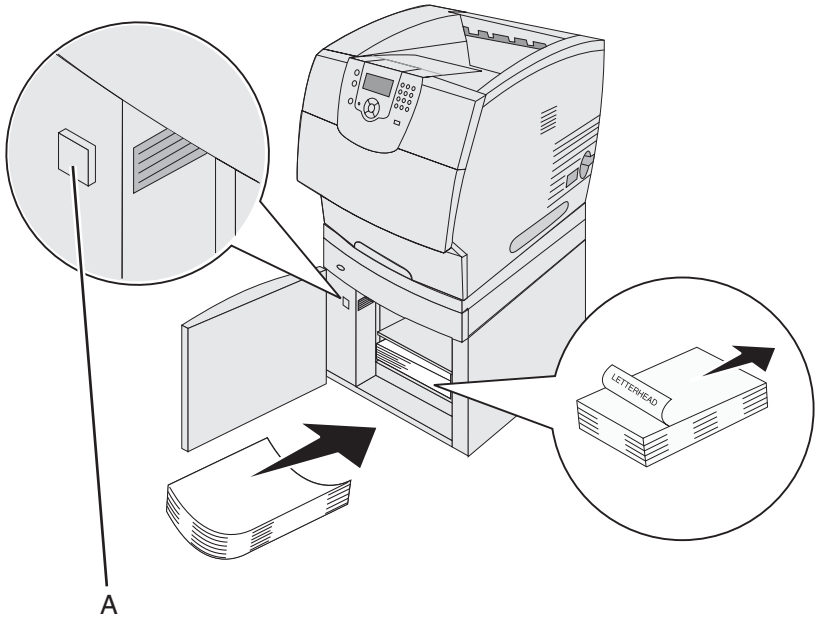
3. Open any optional trays beginning at the top, and remove any jammed media.

   Pull the print media either up or down. If it does not pull easily one way, try the other way.





4. If you have an optional 2000-sheet feeder, open the front door, press the elevator button (A) to lower the tray, remove the jam, and make sure the stack of print media is neat and aligned.

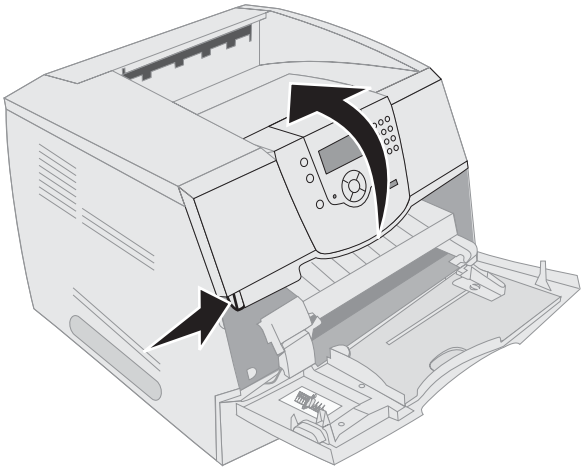


5. Press ✓.

200 and 201 Paper Jam Remove Cartridge

1. Push the release latch, and lower the multipurpose feeder.
2. Push the release latch, and open the top front cover.

CAUTION: The inside of the printer is hot.



3. Lift and pull the print cartridge out of the printer.

   Warning: Do not touch the photoconductor drum on the underside of the cartridge. Use the cartridge handle whenever you are holding the cartridge.

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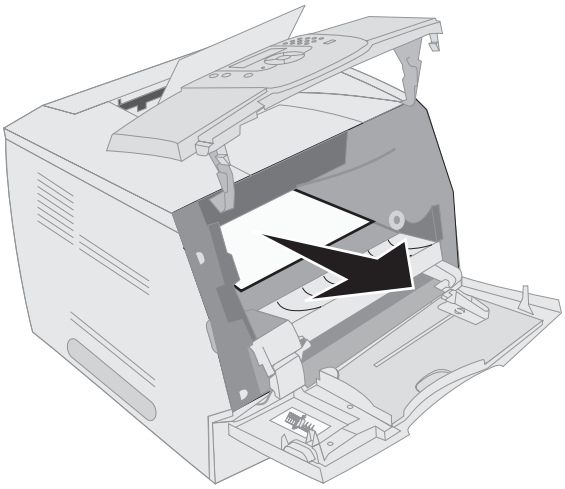
4. Place the print cartridge aside.

   Note: Do not leave the cartridge exposed to light for extended periods.

   Note: The print media may be covered with unfused toner, which can stain garments and skin.

5. Pull the print media up and toward you.

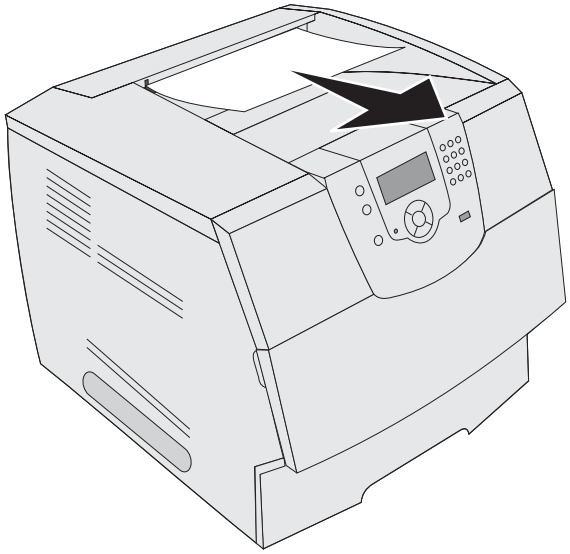
   Warning: If the print media does not move immediately when you pull, stop pulling. You need to access the print media from the printer rear door.



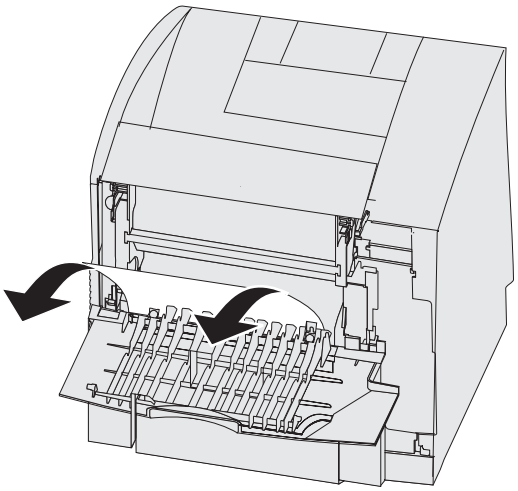
6. Reinstall the toner cartridge.
7. Close the top front cover.
8. Close the multipurpose feeder.
9. Press ✓.

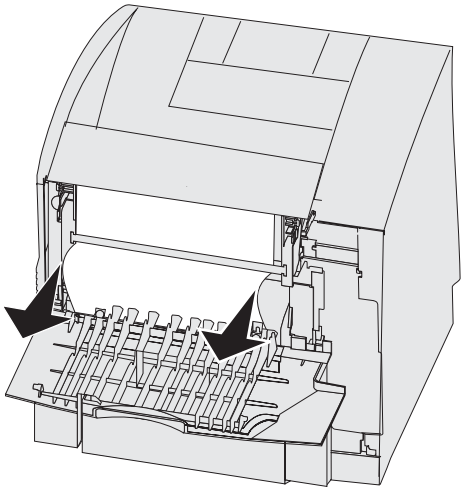
202 Paper Jam Open Rear Door

1. If the paper is exiting the printer, pull the media straight out, and press ✓. Otherwise continue with step 2.



2. Open the printer rear door.
3. Remove the jammed media.





4. Close the rear door.
5. Press ✓.

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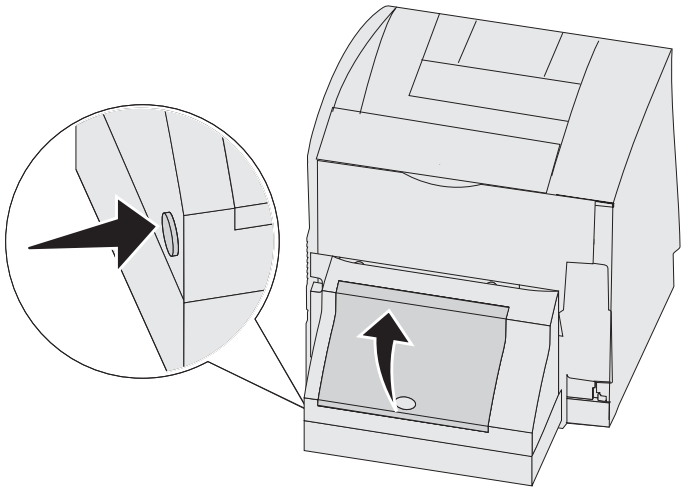
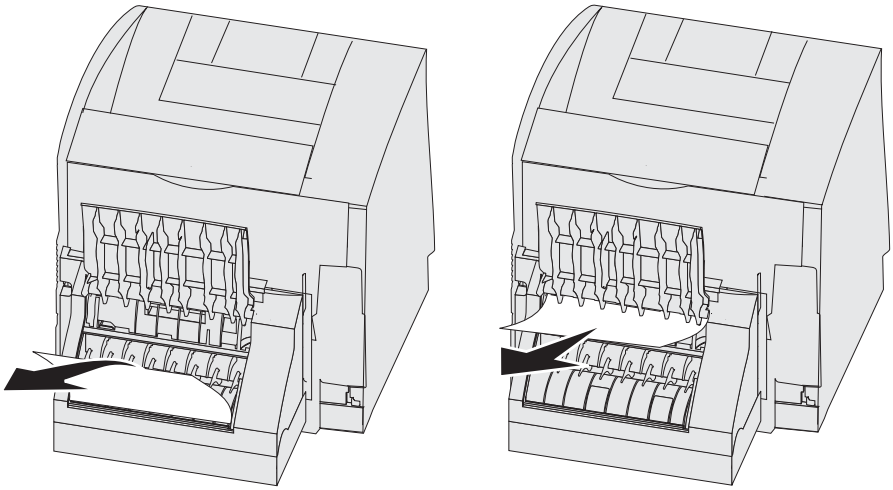
23x Paper Jam Open Duplex Rear Door

1. Open the duplex rear door.



2. Remove the jammed media.

   Depending on the media location, pull the media either up or down.



3. Close the duplex rear door. Make sure it *snaps* into place.
4. Press ✓.

270 and 280 Paper Jams

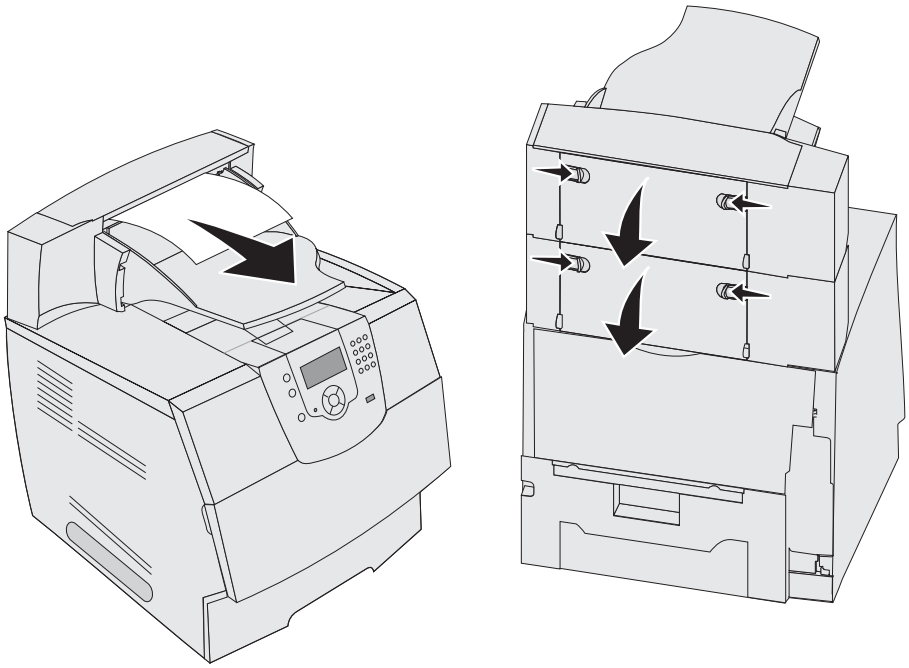
Paper jams in this group have been divided into 27x and 28x groups. If you have an output expander, high-capacity output stacker, or the 5-bin mailbox, see **"27x Paper Jam Check Bin x"**. If you have a finisher, see **"28x Paper Jam Check Finisher"**.

27x Paper Jam Check Bin x

To clear a jam in the output expander, high-capacity output stacker, or the 5-bin mailbox:

1. If the paper is exiting into the bin or finisher, pull the media straight out, and press ✓. Otherwise continue with step 2.
2. Push the output bin rear door latches in toward the center. The rear doors will open and drop down.

   Note: If you only have one output option, you may only have one rear door.



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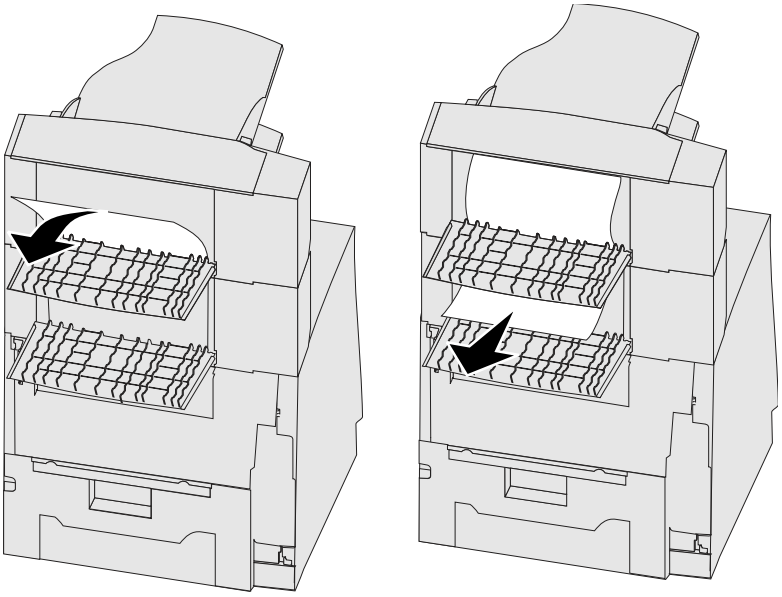
3. Remove the jammed media.

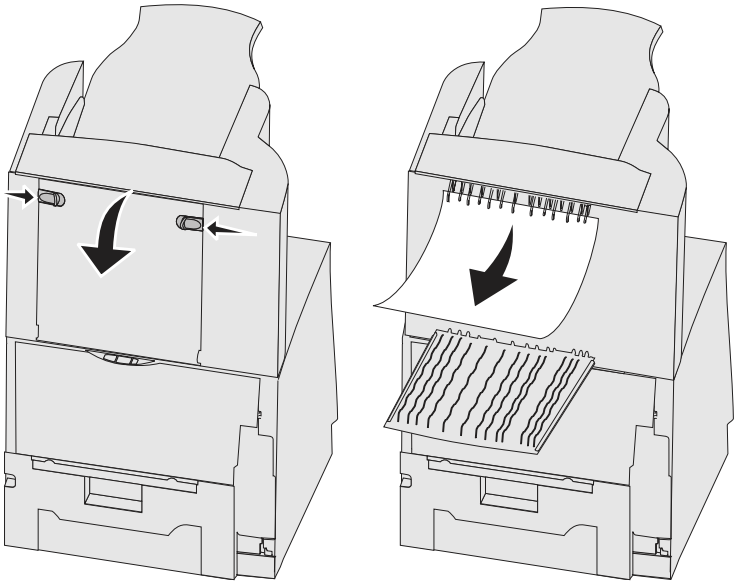


4. Close the output bin rear doors, and make sure all doors are secure.
5. Press ✓.

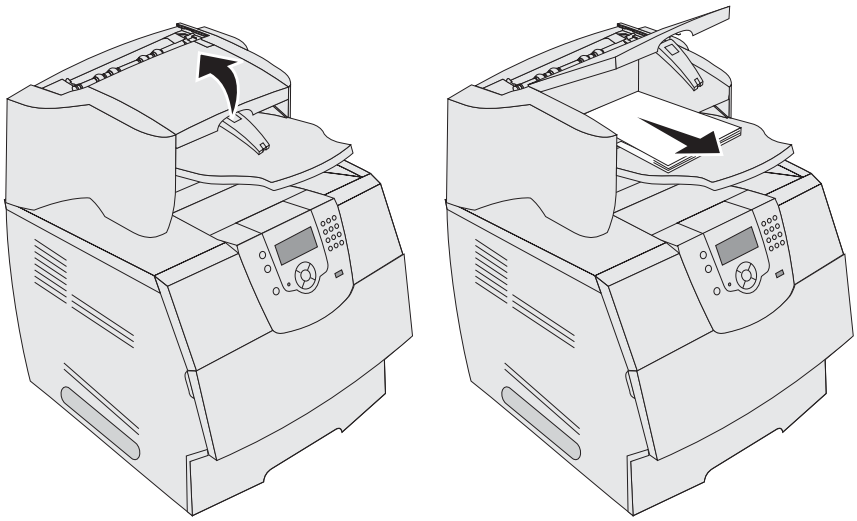
28x Paper Jam Check Finisher

To clear a jam in the finisher:

1. Push the finisher rear door latches in toward the center. The rear door will open and drop down.
2. Remove the jammed media.
3. Close the rear door, and make sure the door is secure.



4. Lift the front edge of the finisher output bin cover until it locks into position.
5. Remove the stack of print media.



6. Close the finisher output bin cover.
7. Press ✓.

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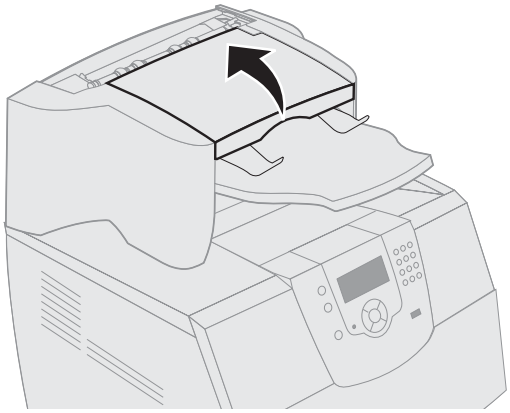
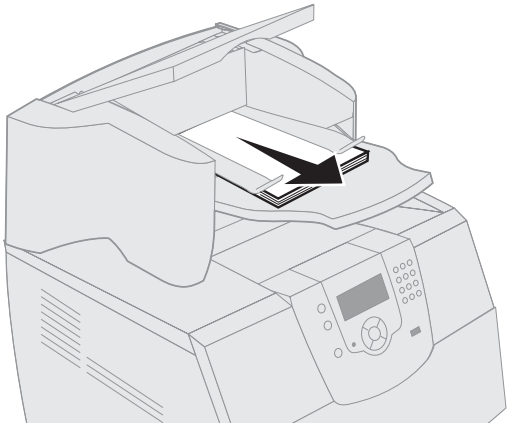
Clearing staple jams

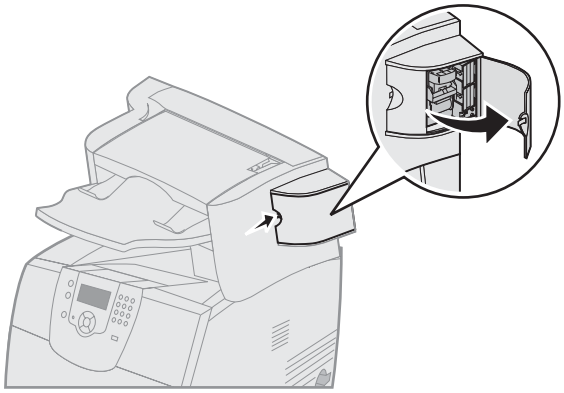
A `28x Stapler Jam` message indicates staples are jammed in the stapler. This requires removing the staple cartridge holder from the printer.

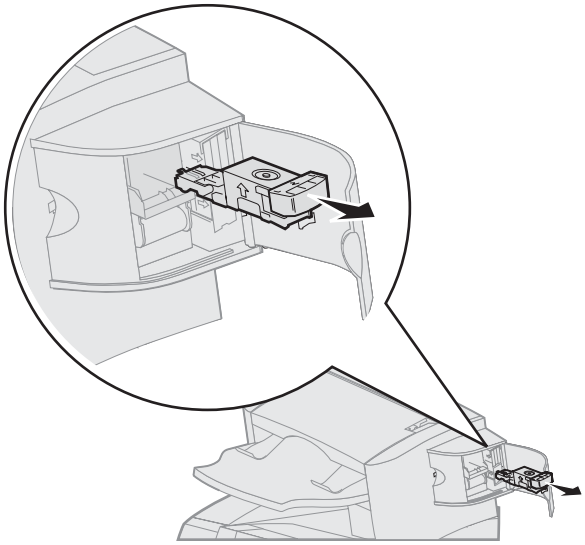
1. Lift the front edge of the finisher output bin cover until it locks into position.
2. Remove the print media.





3. Press the latch to open the stapler access door.
4. Firmly pull the colored tab to remove the staple cartridge holder from the stapler.

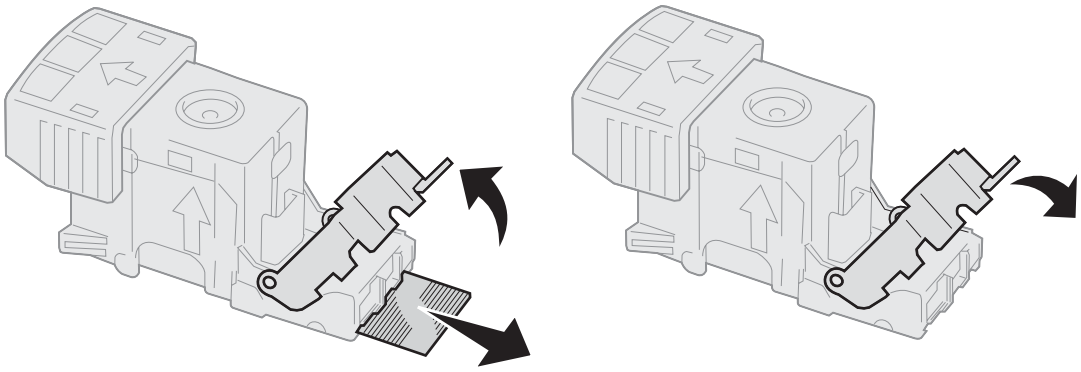




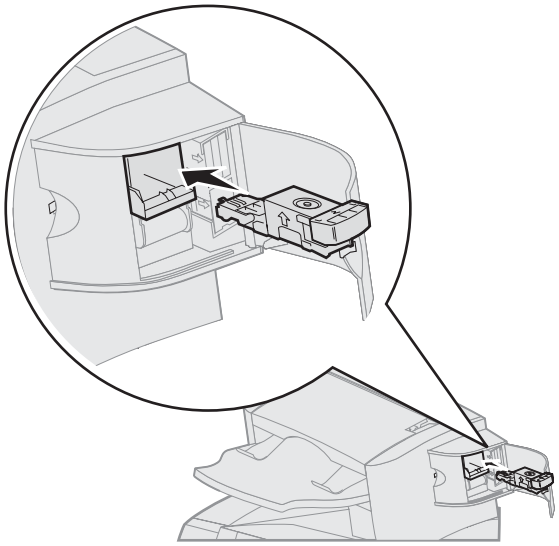
5. Use the metal tab to lift the staple guard, and then pull out the sheet of staples.

   Discard the entire sheet.
6. Remove any loose staples from the staple guard.
7. Look through the clear covering on the bottom of the cartridge holder to make sure no staples are jammed in the entry throat.

8. Press down on the staple guard until it *snaps* securely into place.



9. Push the cartridge holder firmly into the stapler until the cartridge holder *clicks* into place.
10. Close the stapler access door.
11. Close the finisher output bin cover.



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4. Repair information

Warning: Read the following before handling electronic parts.

Handling ESD-sensitive parts

Many electronic products use parts that are known to be sensitive to electrostatic discharge (ESD). To prevent damage to ESD-sensitive parts, follow the instructions below in addition to all the usual precautions, such as turning off power before removing logic boards:

- Keep the ESD-sensitive part in its original shipping container (a special “ESD bag”) until you are ready to install the part into the machine.
- Make the least-possible movements with your body to prevent an increase of static electricity from clothing fibers, carpets, and furniture.
- Put the ESD wrist strap on your wrist. Connect the wrist band to the system ground point. This discharges any static electricity in your body to the machine.
- Hold the ESD-sensitive part by its edge connector shroud (cover); do not touch its pins. If you are removing a pluggable module, use the correct tool.
- Do not place the ESD-sensitive part on the machine cover or on a metal table; if you need to put down the ESD-sensitive part for any reason, first put it into its special bag.
- Machine covers and metal tables are electrical grounds. They increase the risk of damage because they make a discharge path from your body through the ESD-sensitive part. (Large metal objects can be discharge paths without being grounded.)
- Prevent ESD-sensitive parts from being accidentally touched by other personnel. Install machine covers when you are not working on the machine, and do not put unprotected ESD-sensitive parts on a table.
- If possible, keep all ESD-sensitive parts in a grounded metal cabinet (case).
- Be extra careful in working with ESD-sensitive parts when cold-weather heating is used, because low humidity increases static electricity.

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Adjustment procedures

Fuser solenoid adjustment

Perform the fuser solenoid adjustment whenever you replace the fuser solenoid. Adjust the fuser solenoid while installed in the printer. Adjust the screw on the eccentric mounted on the solenoid housing to provide an air gap between the rear of the solenoid stator and the solenoid armature. The solenoid air gap for all models is 4.5 mm ± 0.1 mm.

Gap adjustment

The gap adjustment allows you to increase the minimum gap between sheets of paper as they are fed through the printer. This adjustment reduces the printer overall performance, such as pages per minute, but can help in reducing the amount of curl of some printed media, thus improving media stacking in the output bin.

1. Enter the Diagnostic Mode.
2. Select **Ep Setup** from the Diagnostic Menu.
3. Select **Gap Adjust**.
4. The range of the GAP adjustment is 0 to 255. Adjust the gap setting by using to select the value. If GAP=0 displays, it indicates a factory setting to minimum gap. Select a value and run several copies of the media that displays a curl problem. It may take several tries before improvement is noticed.

Note: This setting has no effect when duplexing.

Printhead assembly adjustment

Do the printhead assembly adjustment whenever you remove or replace the printhead assembly or loosen the mounting screws.

Install the new printhead with the three mounting screws centered in the slots in the printhead frame assembly. Leave the screws loose enough to allow the printhead assembly to move from side to side within the slots. It is necessary to perform a registration adjustment before locking down the three printhead mounting screws.

To perform the registration adjustment:

1. Turn the printer off.
2. Press and hold and .
3. Turn the printer on, and release the buttons when `Performing Self Test` displays.
4. Select **Registration** from the menu.
5. Select **Quick Test Page**. The test page should only be printed on letter or A4 paper from Tray 1. The Quick Test Page consists of alignment diamonds, horizontal lines that can be used for skew adjustment, page count setting, printer serial number code levels, and print registration settings.
6. Check the Quick Test Page for any sign of skew by checking the diamonds at the top left and top right of the test page for equal distance from the top of the page. If necessary, adjust the left or right printhead mounting screws and check the skew again by running another Quick Test Page. This procedure may take two or three attempts before you get satisfactory results.
7. When you have the correct adjustment, gently tighten the printhead mounting screws, being careful not to move the printhead assembly.

Paper alignment assembly adjustment

Do the alignment assembly adjustment whenever you replace the alignment assembly. Always print a copy of the Quick Test Page before making any adjustments to the alignment assembly reference adjustment screw. When replacing the alignment assembly, it is necessary to back the reference adjustment screw out far enough to remove the old assembly and install the new one.

- If you are replacing the alignment assembly, go to step A.
- If you are only adjusting the reference adjustment screw, go to step B.

Step A

Print a copy of the Quick Test Page and check the margin adjustments printed on the test page. These settings should be within the range specified in **"REGISTRATION" on page 3-4**.

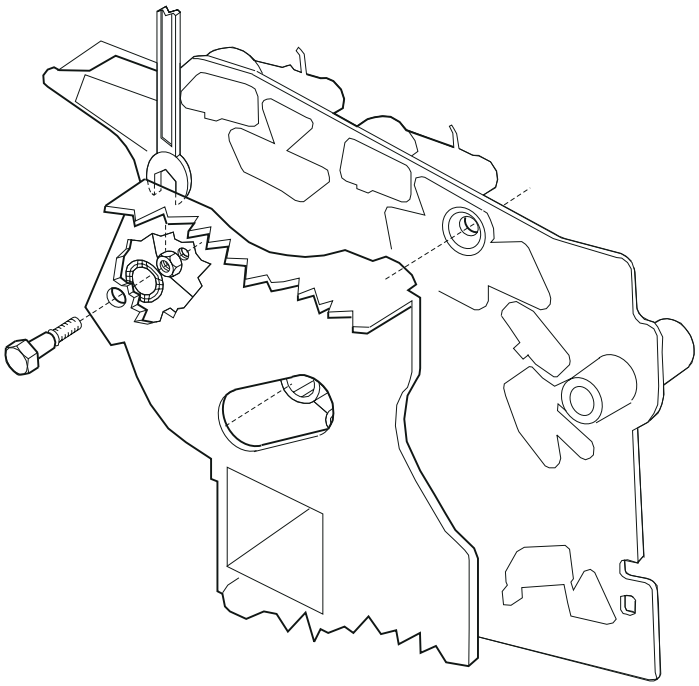
Do the reference adjustment if you are sure the margins are set correctly.

1. Loosen the locknut on the inside rear of the alignment assembly.
2. Remove the two screws holding the alignment assembly to the left side frame.
3. Back the reference adjustment screw out far enough to allow the alignment assembly to be removed from the printer. It is not necessary to completely remove the screw.
4. Install the new alignment assembly. Turn the reference screw clockwise with a 7 mm nut driver until it touches the back of the reference plate, and tighten the nut with a 5.5 mm wrench.

The reference adjustment screw can be adjusted without loosening the nut. Turn the screw clockwise a few turns and print a copy of the Quick Test Page as you check the diamonds on the left margin. Continue adjusting the screw as you check the results of each adjustment on a new test page until you obtain the results you want.

Step B

Print a copy of the Quick Test Page, and check the margin adjustments printed on the test page. These settings should be within the range specified in **"REGISTRATION" on page 3-4**. The reference screw can be adjusted without loosening the locknut. Turn the screw a few turns, and print a copy of the Quick Test Page as you check the diamonds on the left margin. Continue adjusting the screw as you check the results of each adjustment on a new test page until you obtain the results you want.



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Removal procedures

CAUTION: Remove the power cord from the printer or wall outlet before you connect or disconnect any cable or electronic board or assembly for personal safety and to prevent damage to the printer.

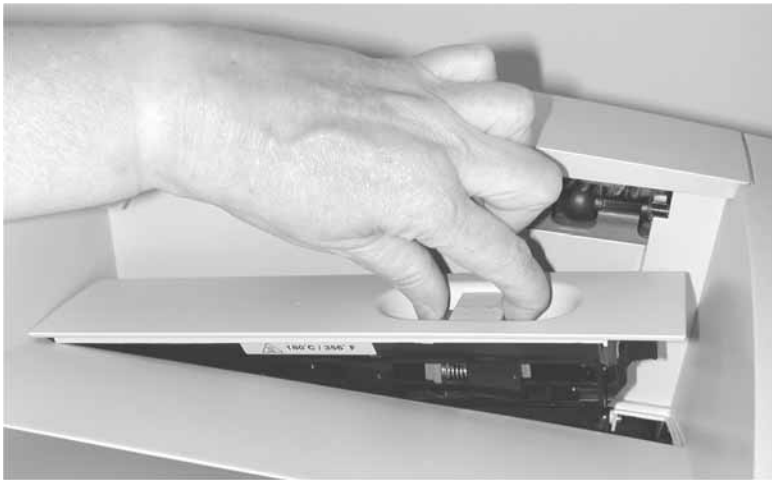
CAUTION: Use the handholds on the side of the printer. Make sure your fingers are not under the printer when you lift or set the printer down.

Note: Some removal procedures require removing cable ties. You must replace cable ties during reassembly to avoid pinching wires, obstructing the paper path, or restricting mechanical movement.

Covers removals

Fuser wiper cover assembly removal

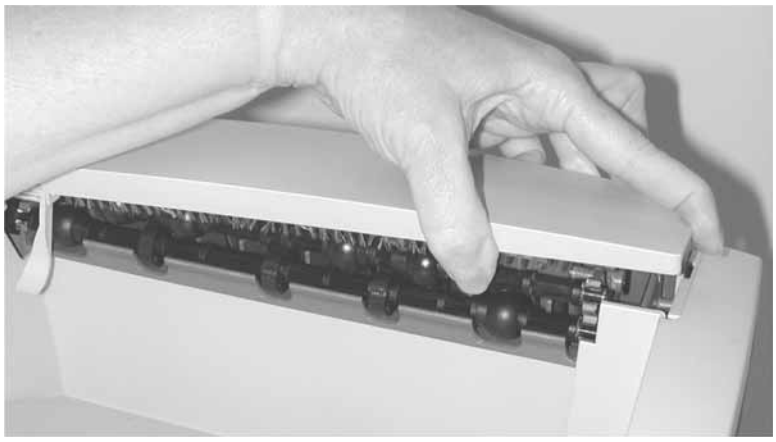
1. Squeeze the two latches together, and pull up.



2. Remove the fuser wiper cover assembly.

Redrive cap cover removal

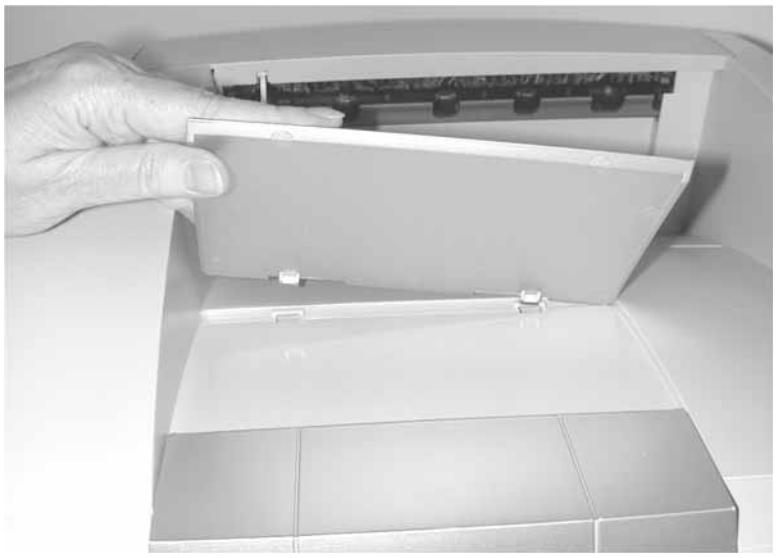
1. Pull up on the right side of the redrive cap cover to remove.



2. Remove the redrive cap cover.

Paper support removal

1. Raise the paper support, and lift to release the latches.



2. Remove the paper support.

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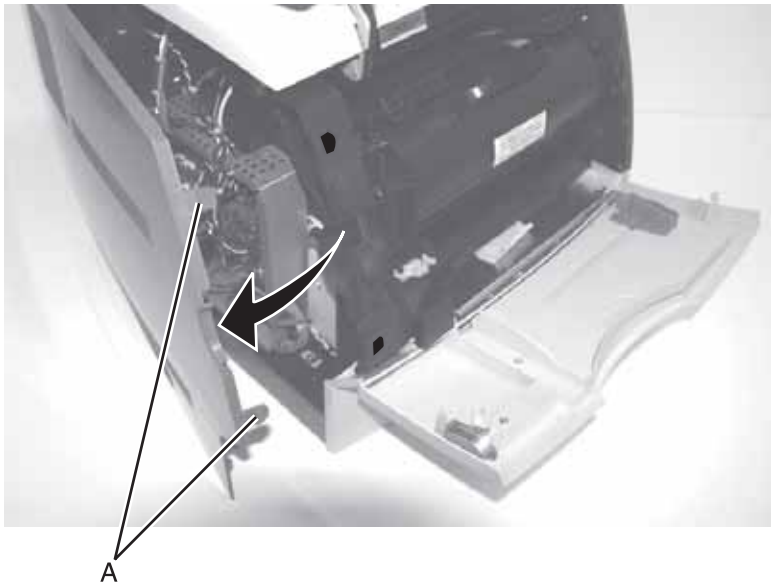
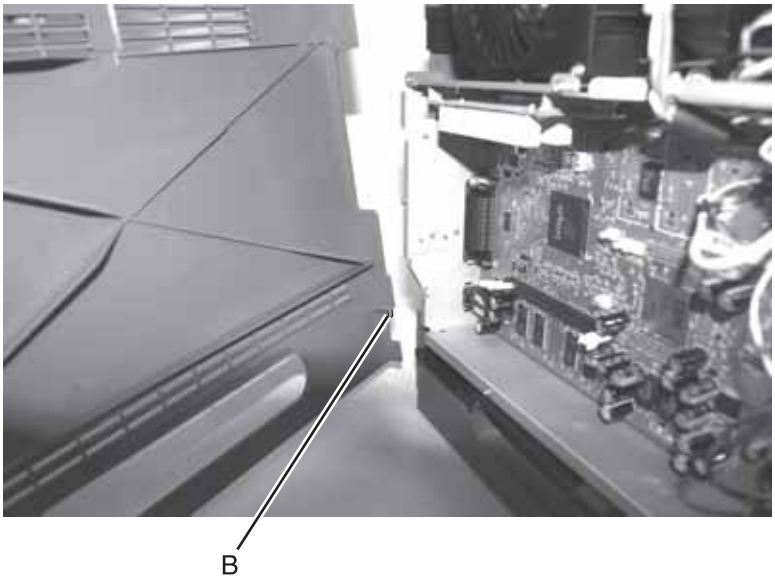
Left door removal

1. Open the upper and lower front covers.
2. Press the two left door latch buttons (A), and open the left door.



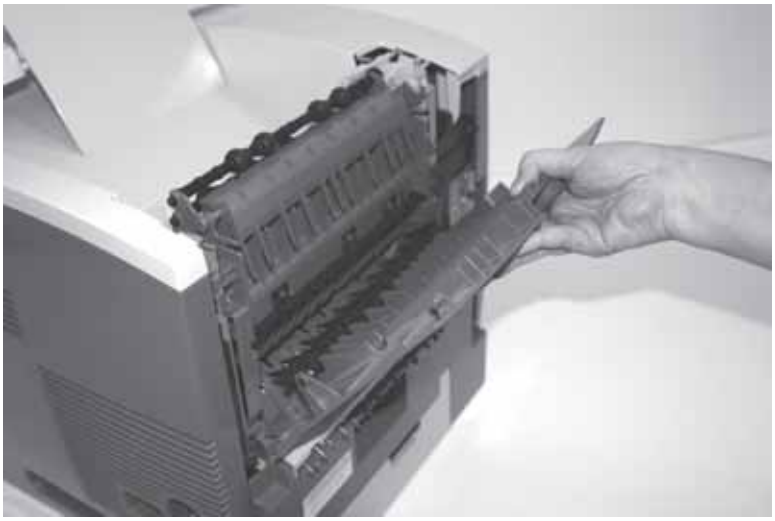
3. Release the top hinge from the latch.

4. Lift the door to release the bottom from the pin (B), and remove the door.



Redrive door

1. With the redrive door partially open, lift and free the left side.



2. Remove the redrive door.

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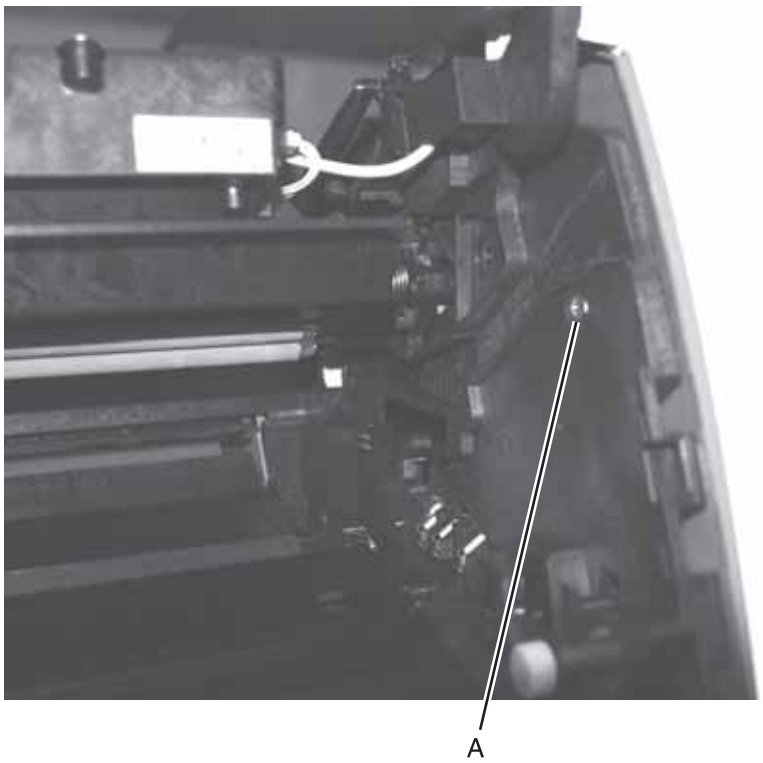
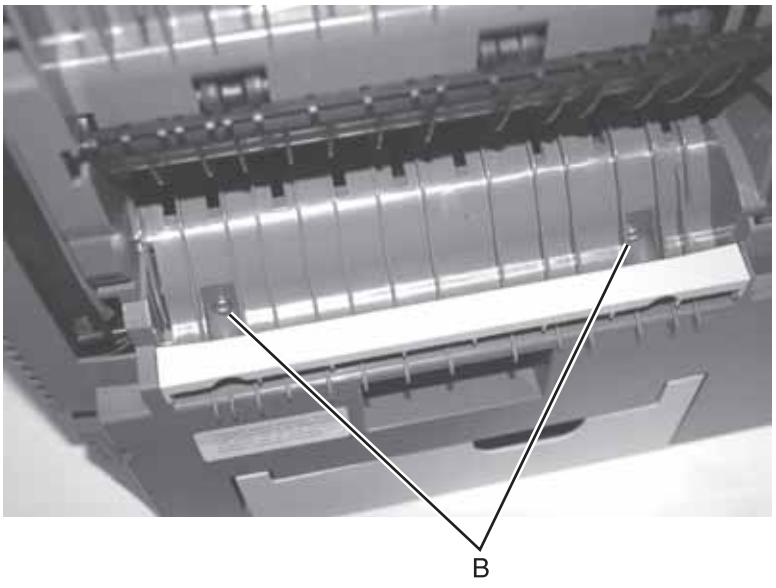
Right cover removal

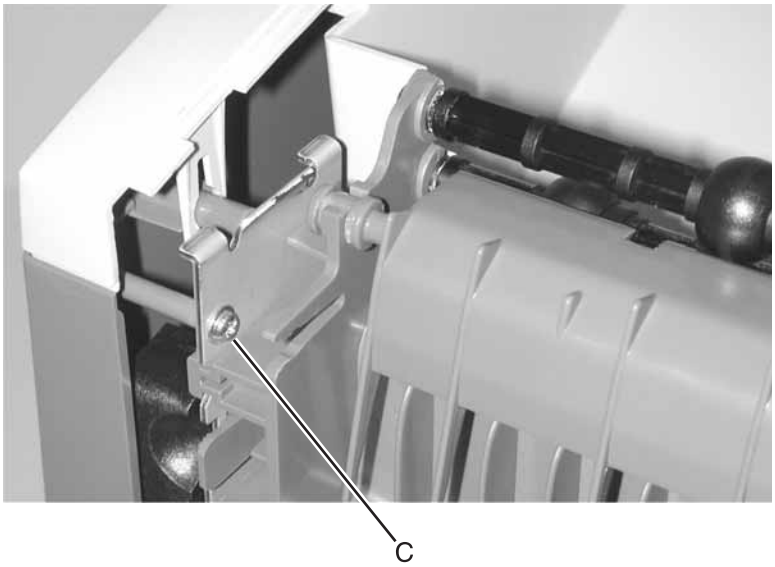
1. Remove the redrive cap. See**“Redrive cap cover removal” on page 4-5**.
2. Open the upper and lower front covers.
3. Remove the print cartridge.
4. Remove the right front cover mounting screw (A).



5. Remove the redrive door. See **“Redrive door” on page 4-7**.
6. Remove the two screws (B).



7. Remove the right rear cover mounting screw (C).



8. Press the two latches to remove the redrive assembly.

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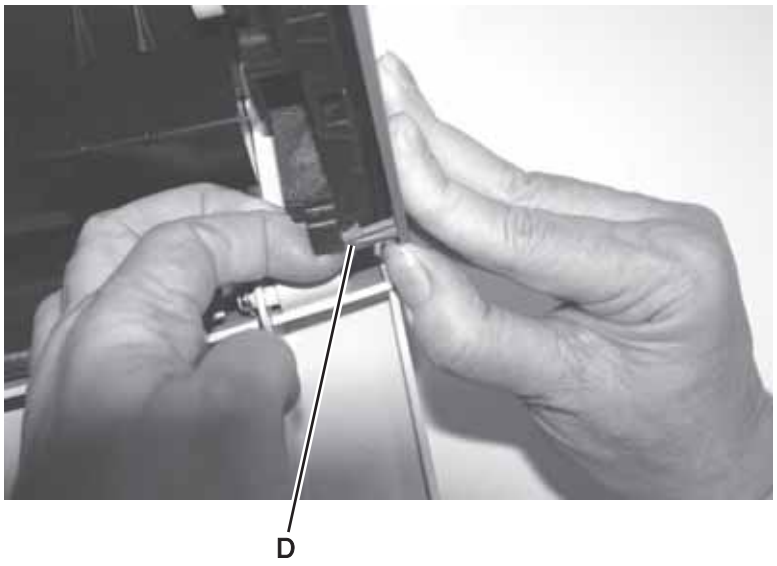
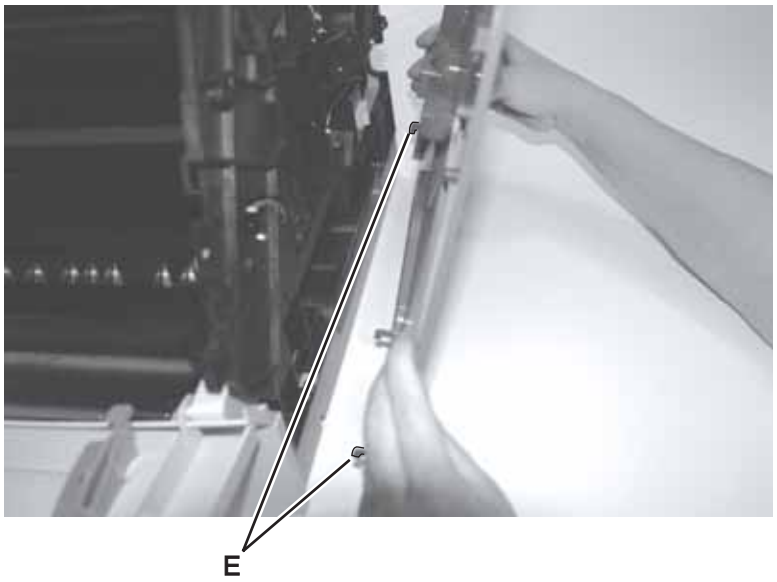
9. Press the latch (D) firmly to release the front of the right cover.



10. Pull up and out on the right cover to release the three cover retainers (E) at the bottom.



Note: When replacing the right side cover, make sure the three cover retainers are correctly located in the appropriate slots in the right side frame.

Upper front cover removal

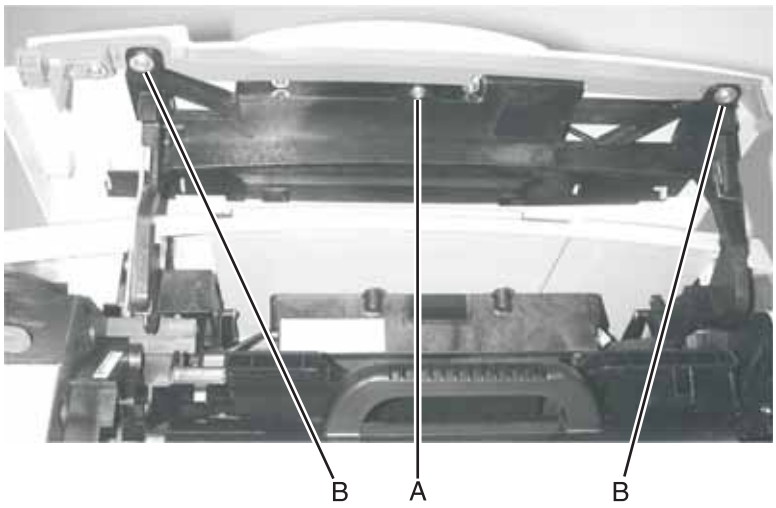
Warning: When replacing any one of the following components:

- Operator panel assembly (or upper front cover)
- System board assembly
- Interconnect card assembly

Only replace one component at a time. Replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable.

Warning: Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a printer, it can not be used in another printer. It must be returned to the manufacturer.

1. Open the lower front cover.
2. Open the upper front cover.
3. Remove the screw (A) holding the upper front cover outer bezel to the hinge.
4. Remove the two screws (B) that hold the upper front cover to the hinge assembly.



5. Lift the upper front cover, and pull forward to release the four tabs holding the upper front cover.

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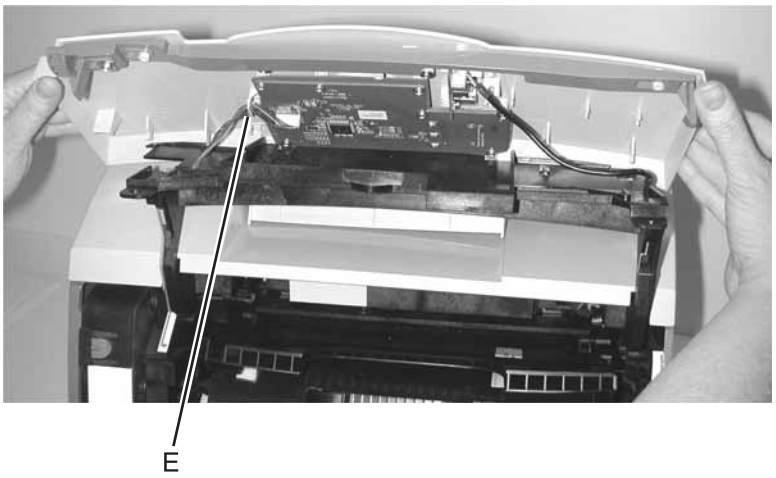
6. Disconnect the cables.

   Note: It may be necessary to remove the operator panel cable from the cable clip (C) to be able to disconnect the cable from the operator panel.



7. Remove the upper front cover.

   Note: If you are replacing the upper front cover, remove the upper front cover outer bezel and upper front cover latch. Otherwise, carefully set the upper front cover aside to avoid scratching the bezel or loosening the latch and spring.

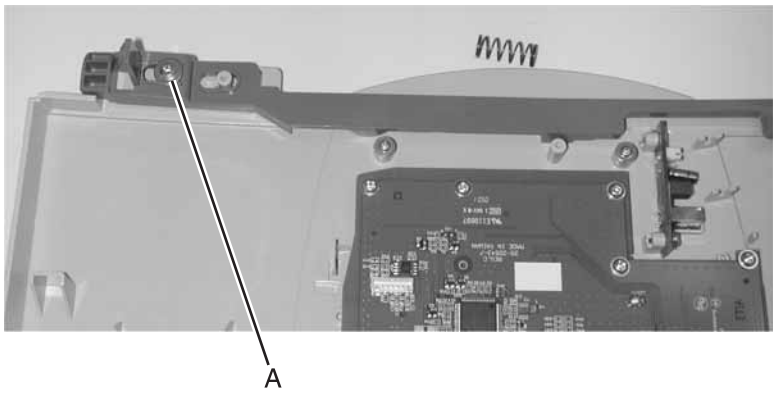
   Note: When removing the upper front cover outer bezel, use care not to lose or drop the clear plastic inner bezel.

Installation notes:

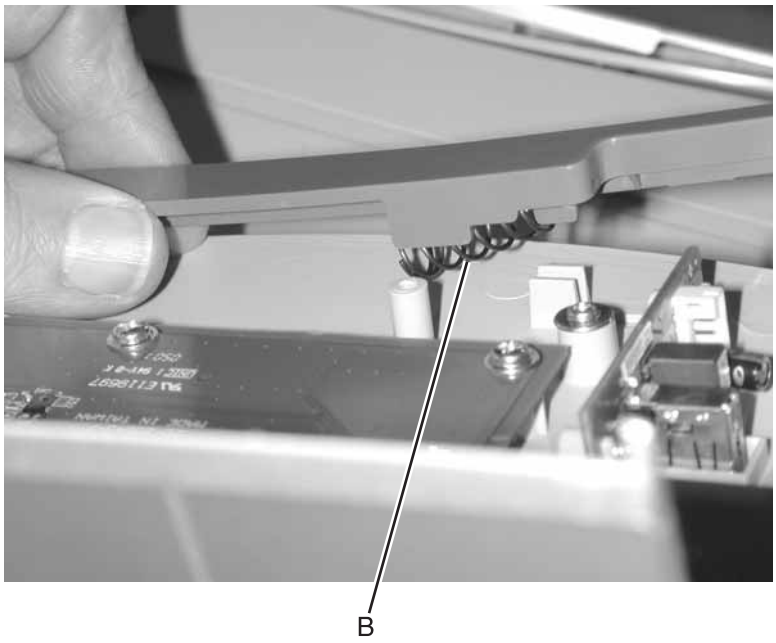
- Lift the paper support before installing the upper front cover.
- Make sure the operator panel cable is in the cable clip (C), if removed.

Upper front cover latch removal

1. Remove the upper front cover.
2. Remove the screw (A) holding the latch and spring to the upper front cover.



Installation note: The spring (B) is installed as shown.



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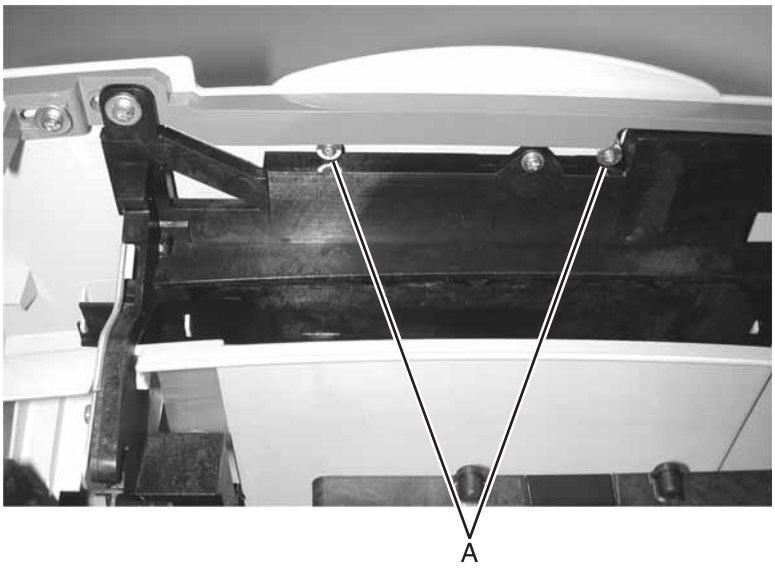
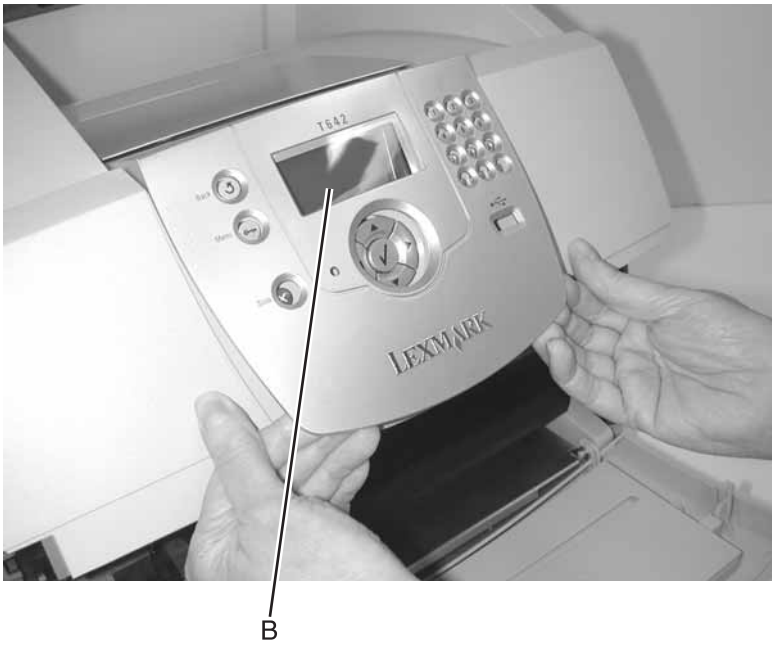
Upper front cover outer bezel removal

1. Open the lower front cover.
2. Open the upper front cover.
3. Remove the two small upper front cover outer bezel mounting screws (A).



4. Pull up to remove the outer bezel.

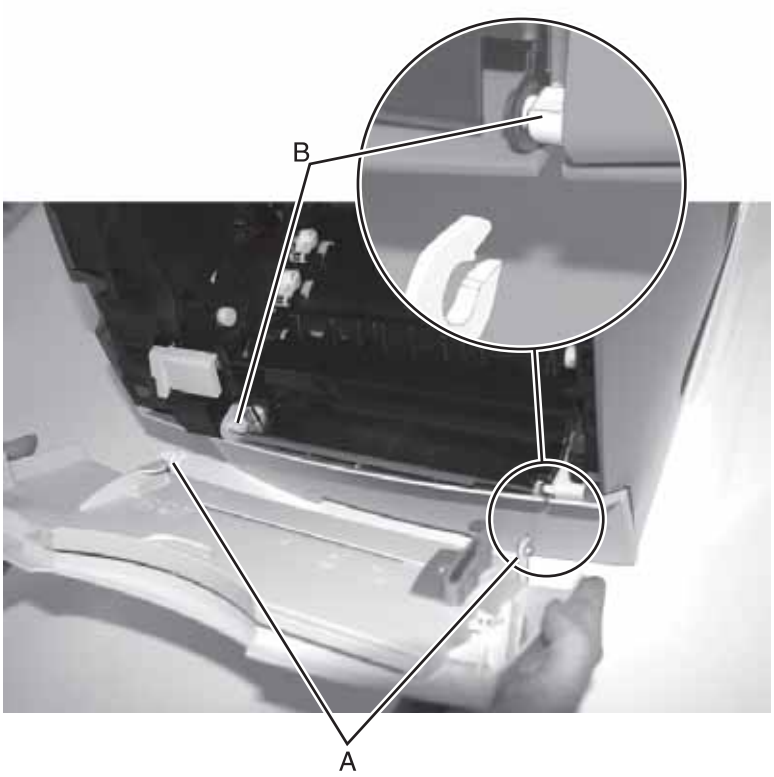
   Note: If available, place a soft, clean cloth on the open lower front cover. The clear inner bezel (B) is not connected and may fall. The cloth may prevent scratches on the bezel.



Multipurpose feeder/lower front cover assembly removal

1. Open the multipurpose tray to a position that allows the left and right tray hinge slots (A) to align with the D-shape mounting posts (B). Pull upward on each tray hinge to remove the tray from the two mounting posts.

   Warning: Be careful not to break or stress the hinges.



2. Remove the multipurpose tray/lower front cover assembly.

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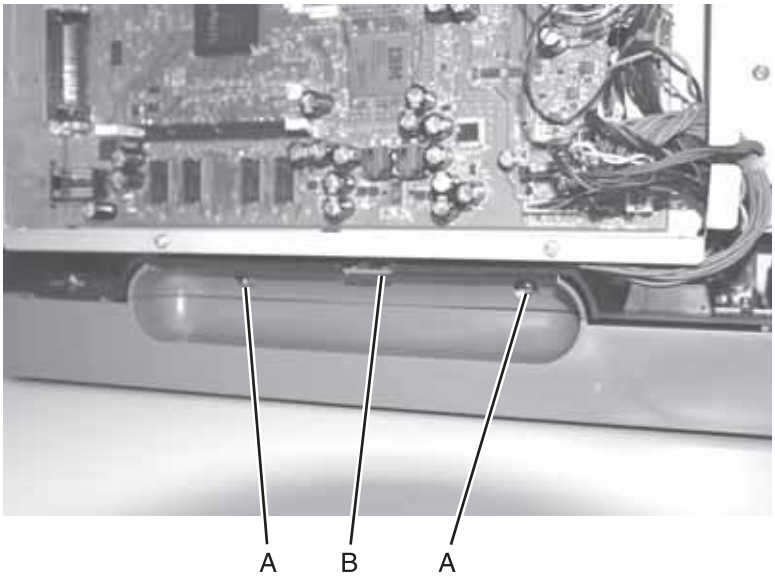
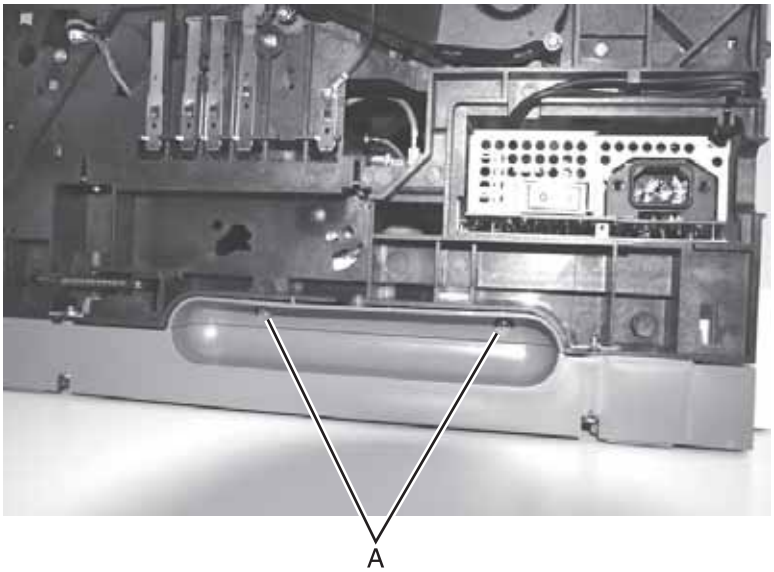
Left cover handle holder removal

1. Open the left side cover.
2. Remove the outer system board shield. See **“Outer shield removal” on page 4-67**.
3. Remove the two screws (A) holding the top of the left handle holder in place.
4. Use the tab (B) to lift out the left handle holder.



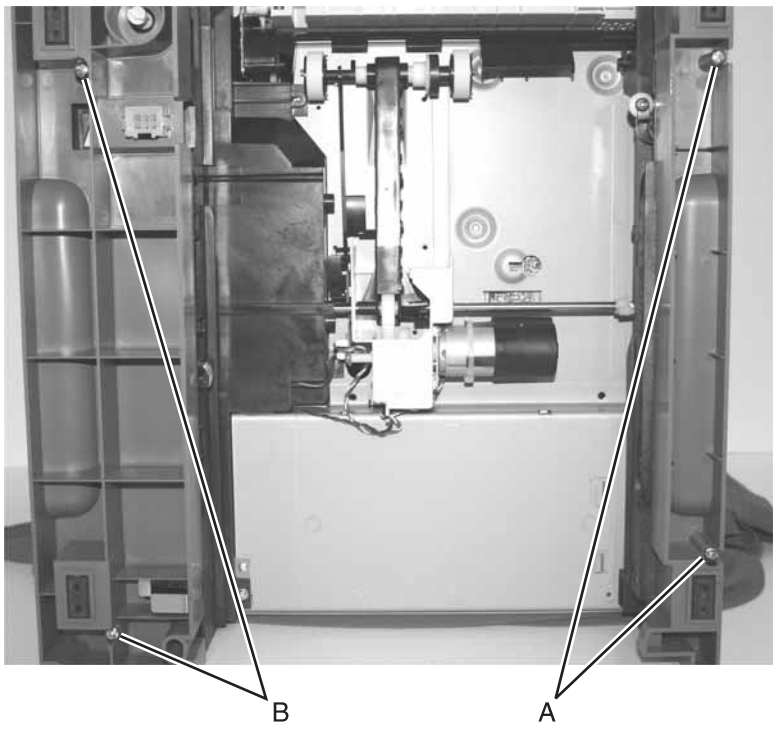
Right cover handle holder removal

1. Remove the right side cover. See **“Right cover removal” on page 4-8**.
2. Remove the two screws (A) holding the top of the right handle holder in place.
3. Lift out the right handle holder.



Left and right frame extensions

1. Remove the toner cartridge.
2. Turn the printer on its back.
3. Remove the two screws (A) holding the right frame extension.
4. Remove the two screws (B) securing the left frame extension.



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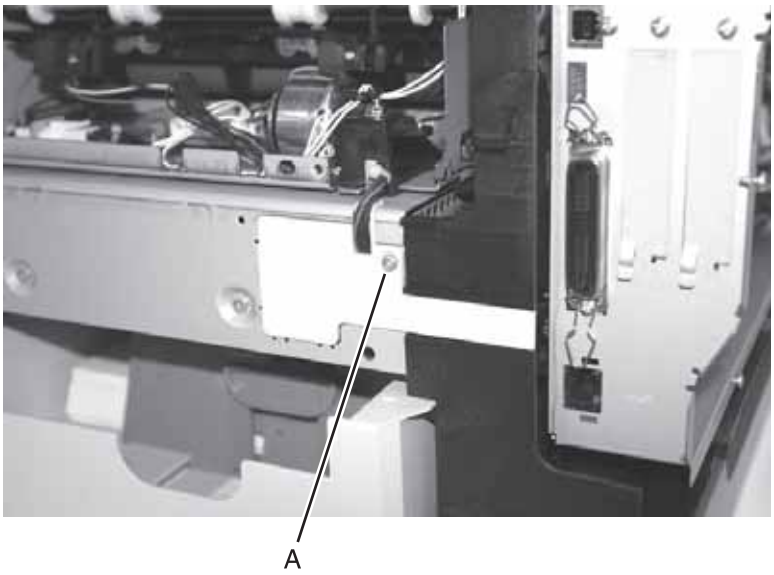
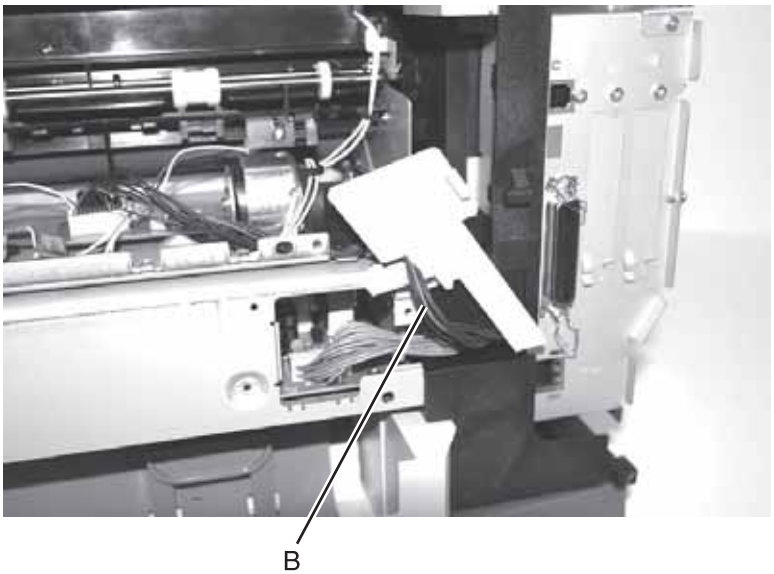
Pass thru plate

1. Remove the redrive assembly. See **“Redrive assembly removal” on page 4-74**.
2. Remove the screw (A) securing the pass thru plate.



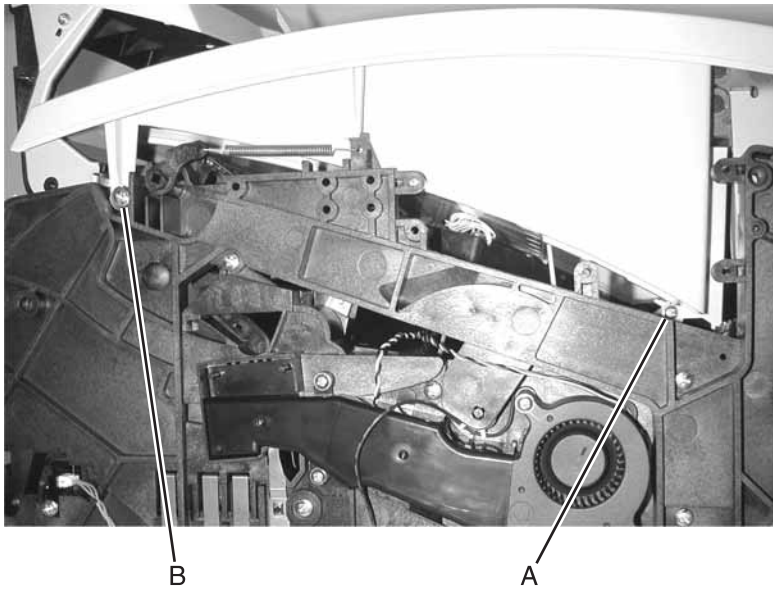
3. Carefully remove the plate until it is loose.
4. Remove the fuser to system board DC cable (B) secured through the plate.

   Note: Note the routing of the fuser card to system board DC cable.

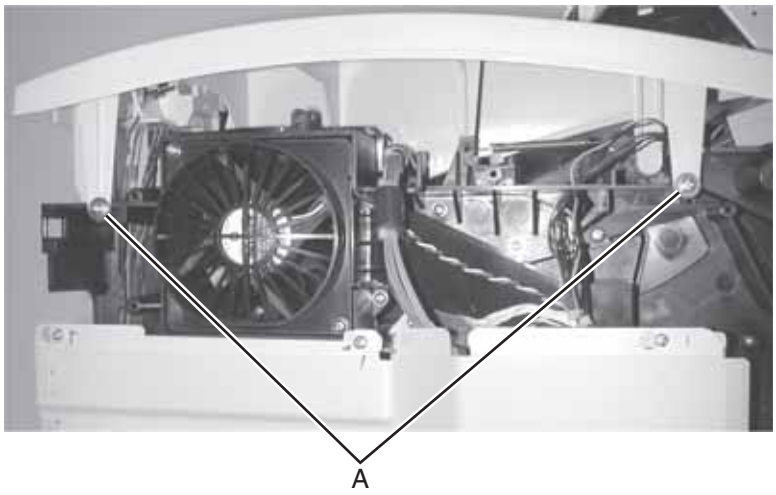


Laser cover removal

1. Remove the left door. See **“Left door removal” on page 4-6**.
2. Remove the right cover. See **“Right cover removal” on page 4-8**.
3. Remove the paper support. See **“Paper support removal” on page 4-5**.
4. Remove the redrive cap. See **“Redrive cap cover removal” on page 4-5**.
5. Press the fuser wiper cover latch, and remove the cover.
6. Remove the screw (A) at the rear of the printer and the larger screw (B) at the front on the right side.



7. Remove the two mounting screws (C) from the left side.



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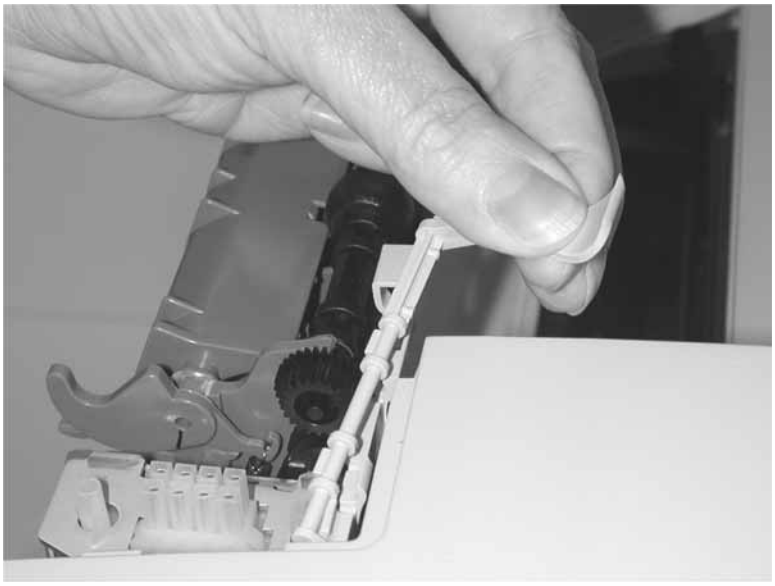
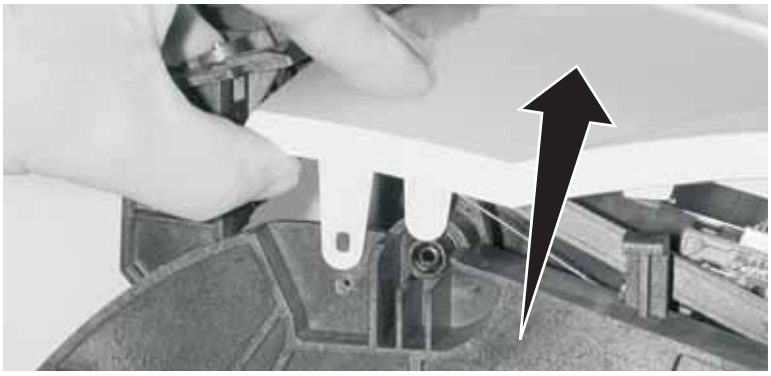
8. Remove the paper bin full sensor flag from the mounting bracket. See **“Paper bin full sensor flag removal” on page 4-70**.

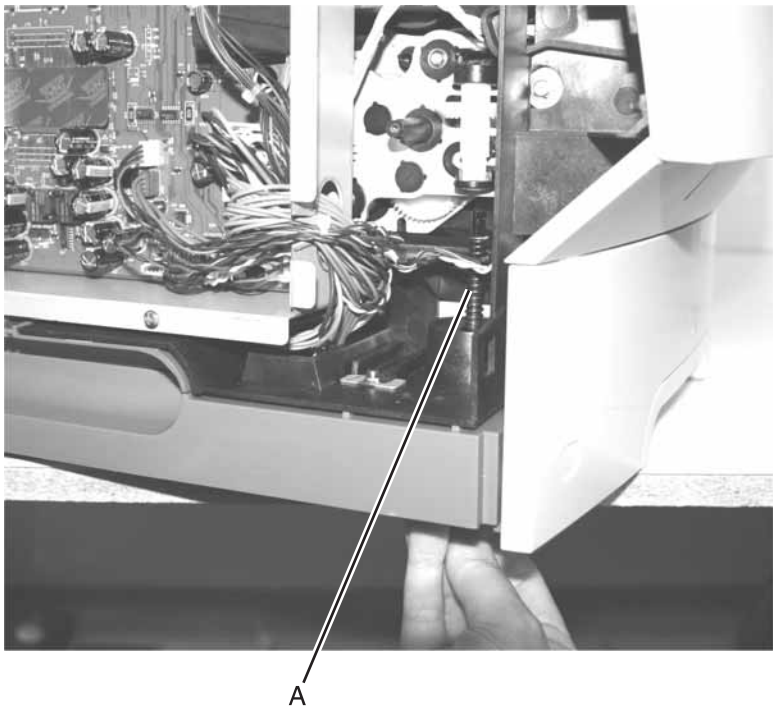


9. Unlatch the front right and front left cover posts, and remove the cover.



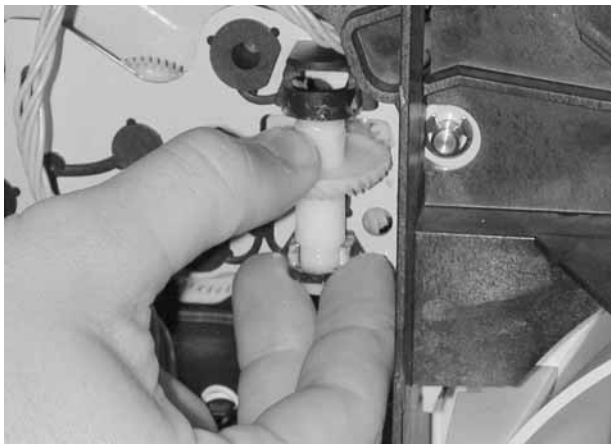
Bevel gear removal

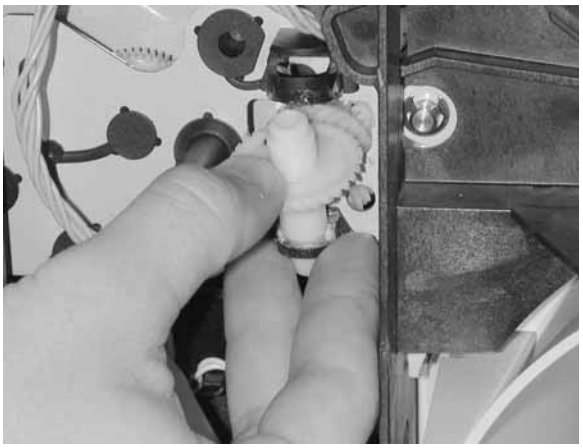
1. Open the left door.
2. Remove the inner shield.
3. Remove the gear guard.
4. Remove the power takeoff shaft and spring (A) through the bottom of the printer.



5. Place your thumb on the top of the gear, and press firmly down and away.

   Note: You need to exert firm pressure to *snap* the bevel gear out.





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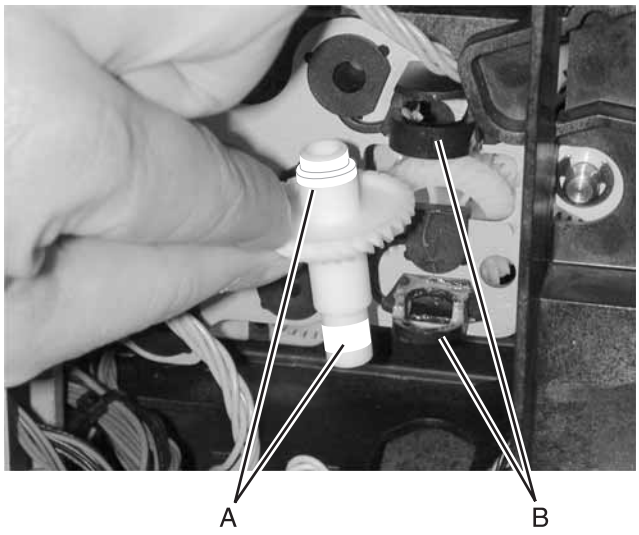
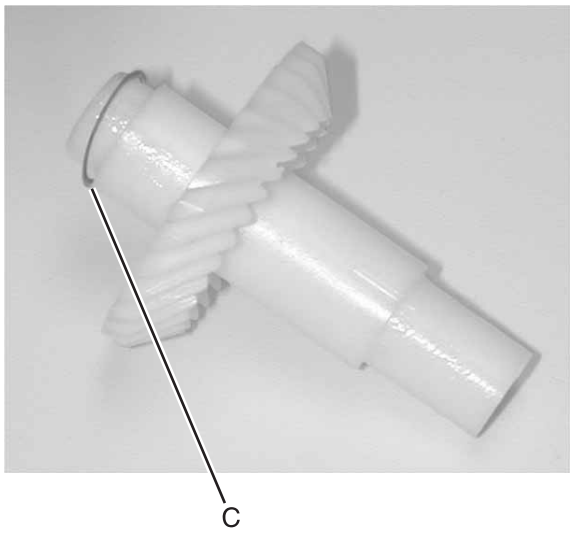
Installation

1. Remove any washer that may be present (A) and discard.
2. Lubricate areas (A) that engage the journal (B) with grease from the provided packet.
3. Place the new washer (C) on the bevel gear shaft.

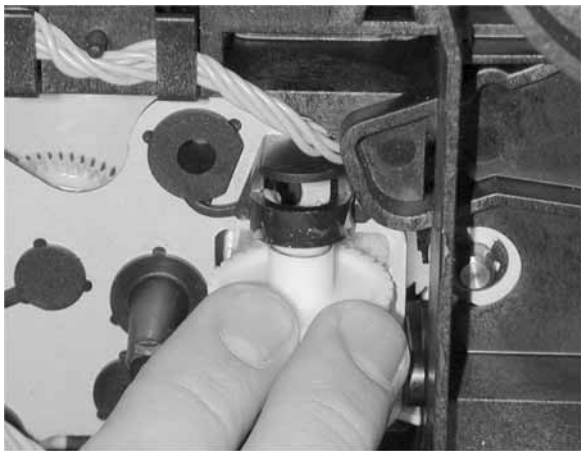


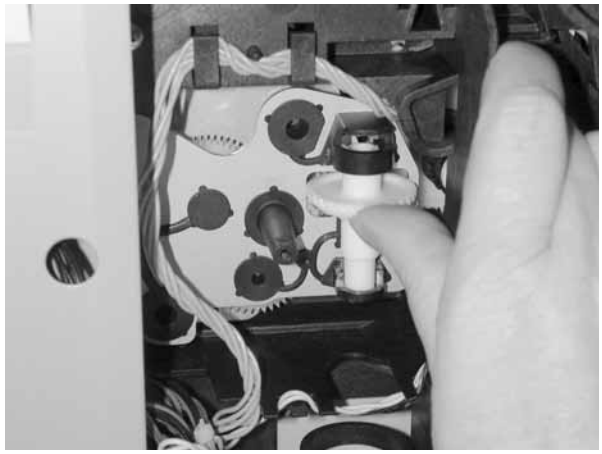


4. Insert the bottom portion and press or pull into position.

   Note: You should hear two distinct *snaps*. If you only hear one, the bevel gear is only partially engaged and you should continue to press until the second *snap* is heard. Very firm pressure is required.

   CAUTION: Do not brace your hands below the bevel gear itself. When the gear double-*snaps* into place, it may pinch your hand.



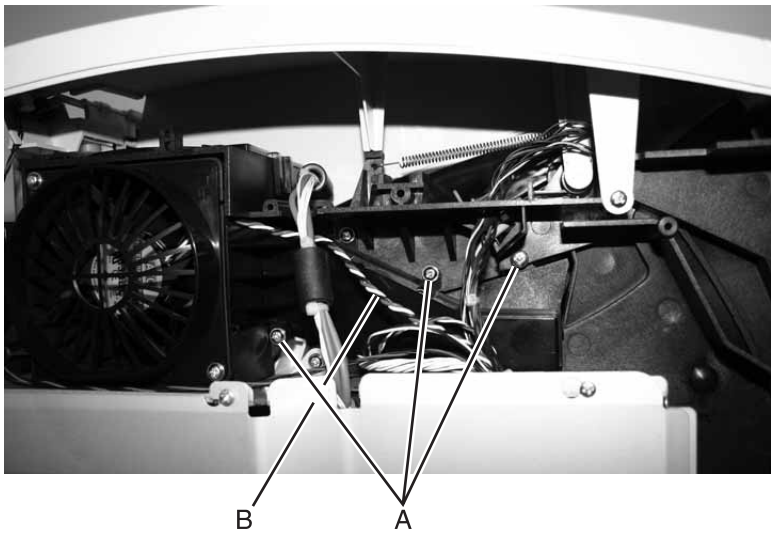


5. Install the power takeoff shaft and spring.
6. Install the gear guard.
7. Install the inner shield.

Cartridge duct removal

1. Open the left door.
2. Disconnect the printhead laser cable from J2 on the system board.
3. Remove the three screws securing the cartridge duct (A).

   Note: It may be necessary to pull the main fan cable (B) up and out of the way to remove the duct.



4. Reconnect the printhead laser cable.

Note: Be sure to reposition the main fan cable if you moved it out of the way when removing the duct.

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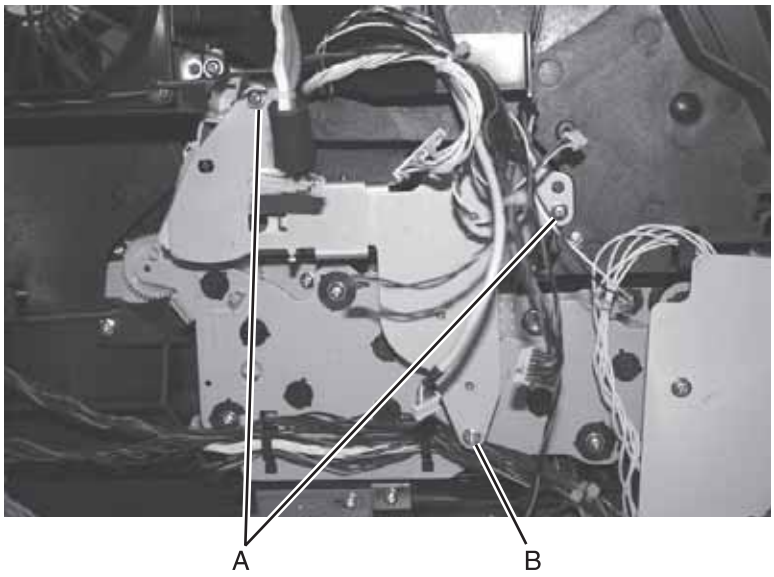
Developer drive assembly removal

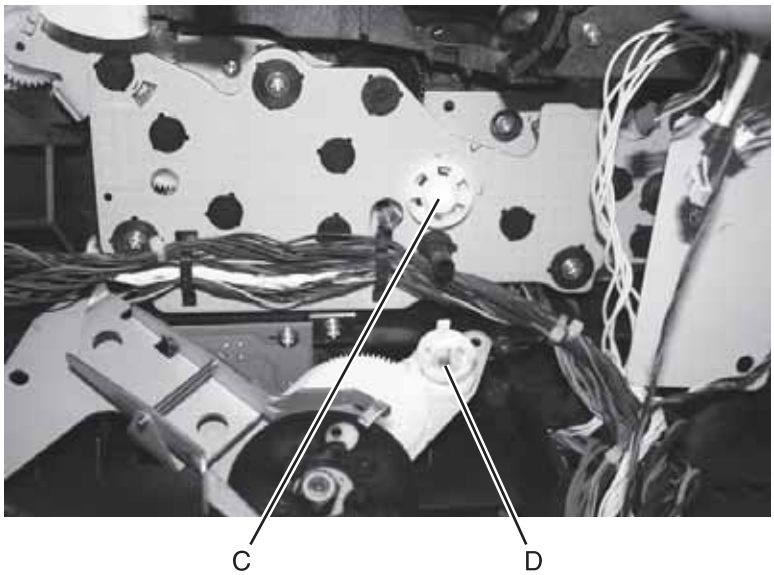
1. Remove the system board and inner shield. See **“System board and inner shield removal” on page 4-76**.
2. Remove the two short screws (A) and the one long screw (B) securing the developer drive assembly.



3. Remove the developer drive assembly.
4. Remove the developer drive coupler kit. See **“Developer drive coupler kit removal” on page 4-25**.

Installation

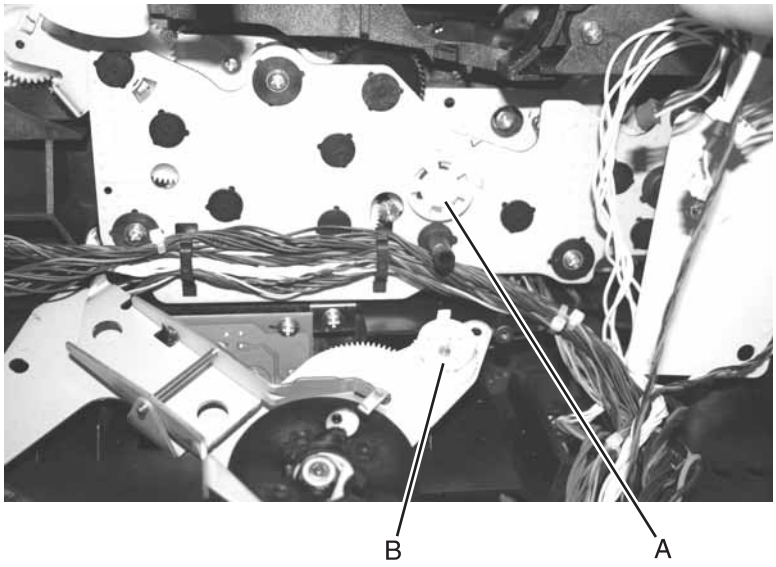
1. Place the developer coupler into the main motor drive shaft.
2. Place the developer drive shaft on the developer drive.
3. Align the developer drive shaft with the coupler.



4. Be sure to replace the screws in the same positions.

Developer drive coupler kit removal

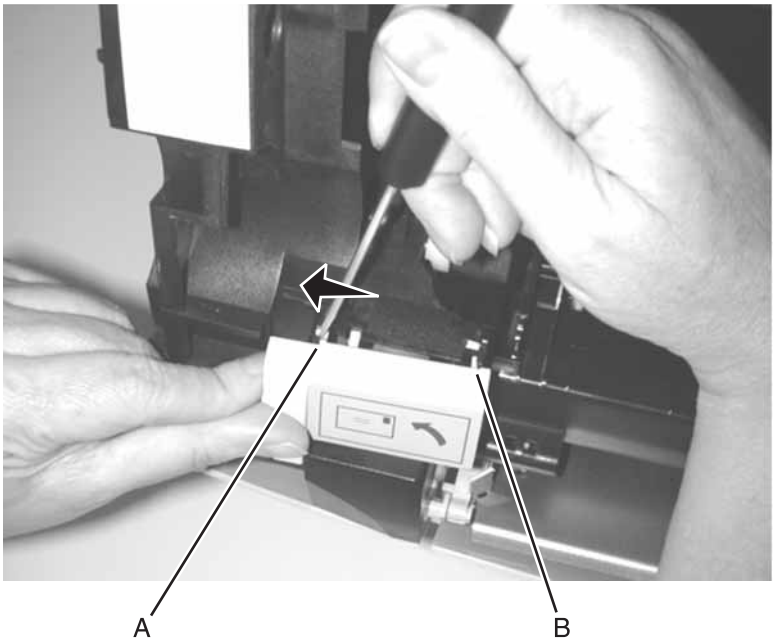
1. Remove the developer drive. See **“Developer drive assembly removal” on page 4-24**.
2. Remove the shaft drive and coupler.



ESD cover removal

1. Open the multipurpose tray, and remove the tray from the two mounting posts. See **“Multipurpose feeder/ lower front cover assembly removal” on page 4-15**.
2. Carefully lift the latch on the left (A), and remove the ESD cover.

   Note: Be careful not to stress the hinge on the right (B).



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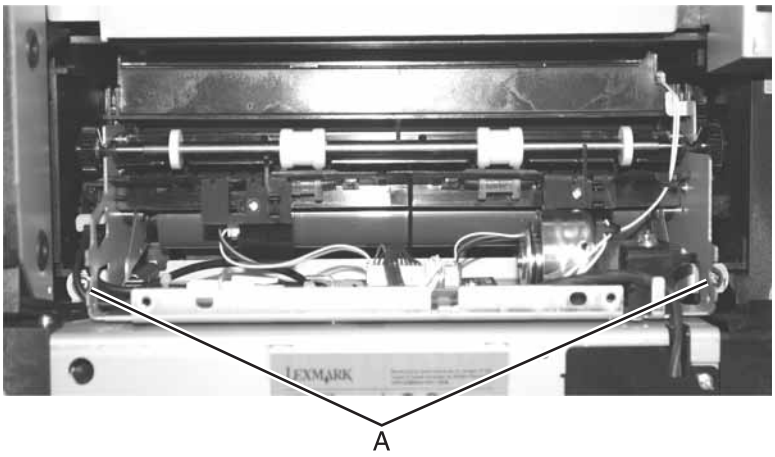
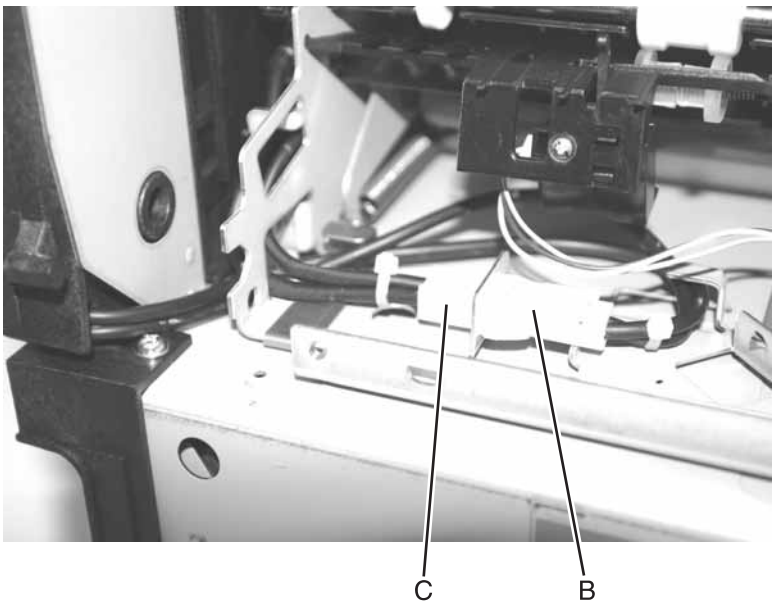
Fuser assembly removal

CAUTION: Unplug the printer before you begin.

1. Remove the fuser wick assembly cover. See **"Fuser wiper cover assembly removal" on page 4-4**.
2. Remove the redrive assembly. See **"Redrive assembly removal" on page 4-74**.
3. Remove the fuser mounting screws (A).

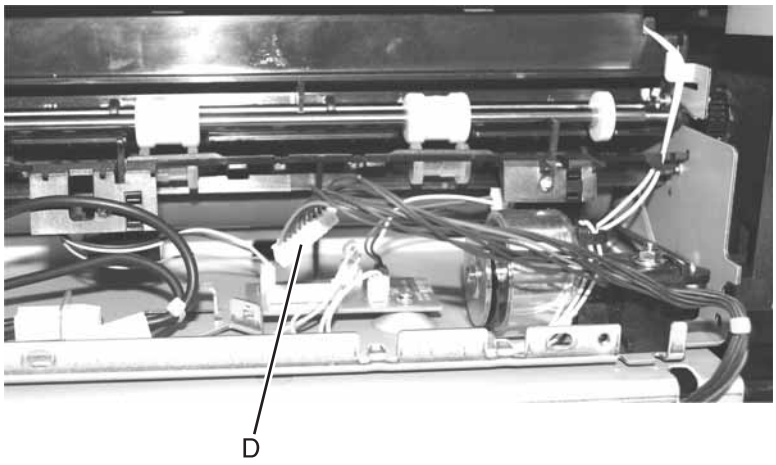


4. Disconnect the fuser to LVPS AC cable (B) from the fuser lamp connector (C).



5. Disconnect the fuser to system board DC cable (D) from the fuser board.

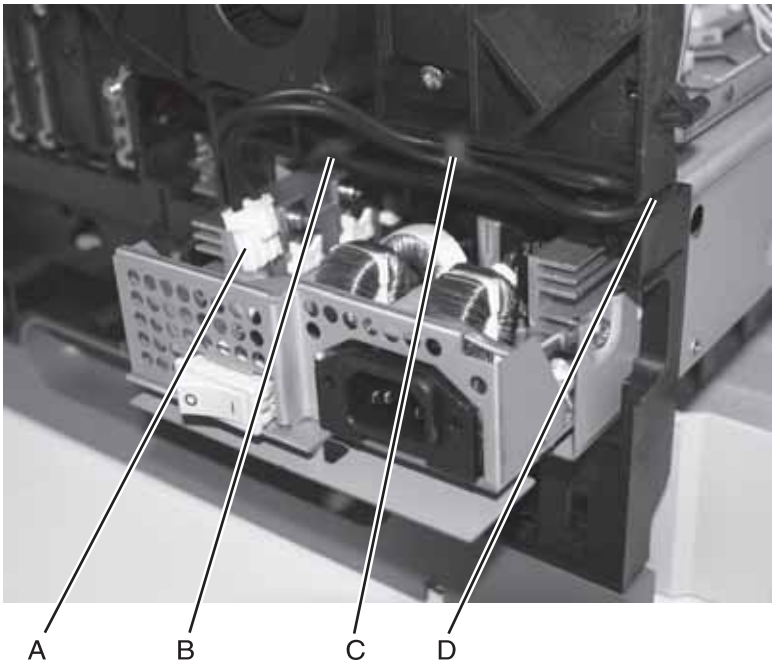
   Note: Be sure to observe the routing of the LVPS to fuser lamp AC and the DC cable.



6. Pull the cables free and remove the fuser.

Installation notes

1. When you reinstall the fuser, be sure to route the fuser to LVPS AC cable (A) through the channel (B) on the right side frame above the LVPS, under the clip (C) over the LVPS, and through the notch in the frame (D).



2. Route the fuser lamp cable through the opening in the fuser (E).

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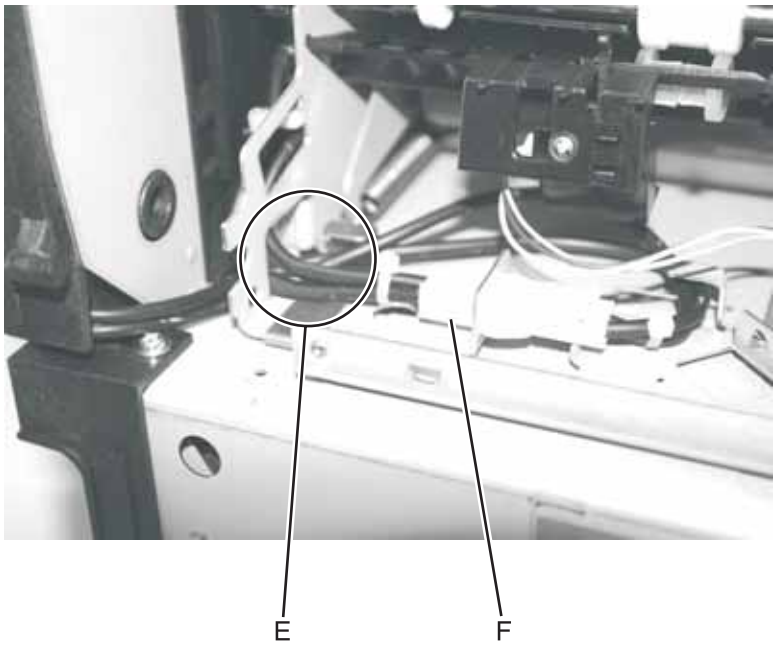
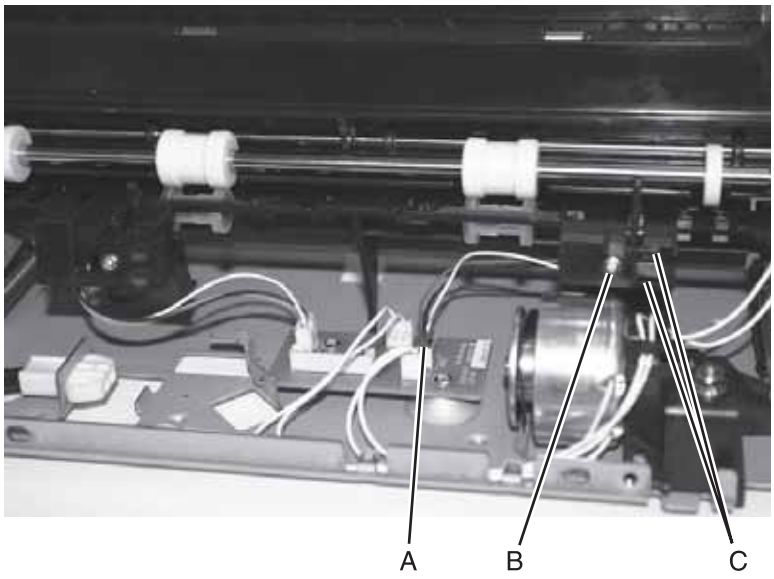
3. Connect the fuser to LVPS AC cable to the fuser lamp connector (F) at the LVPS.

Note: Be sure to connect the fuser to system board DC cable after replacing the LVPS.



Fuser exit sensor removal

1. Remove the fuser. See **"Fuser assembly removal" on page 4-26**.
2. Disconnect the fuser exit cable (A) from the fuser control board.
3. Remove the screw (B) securing the cover containing the fuser exit sensor, flag, and spring.
4. Release the two clips (C) holding the sensor in the bracket.



5. Unplug the fuser exit sensor cable from the sensor.

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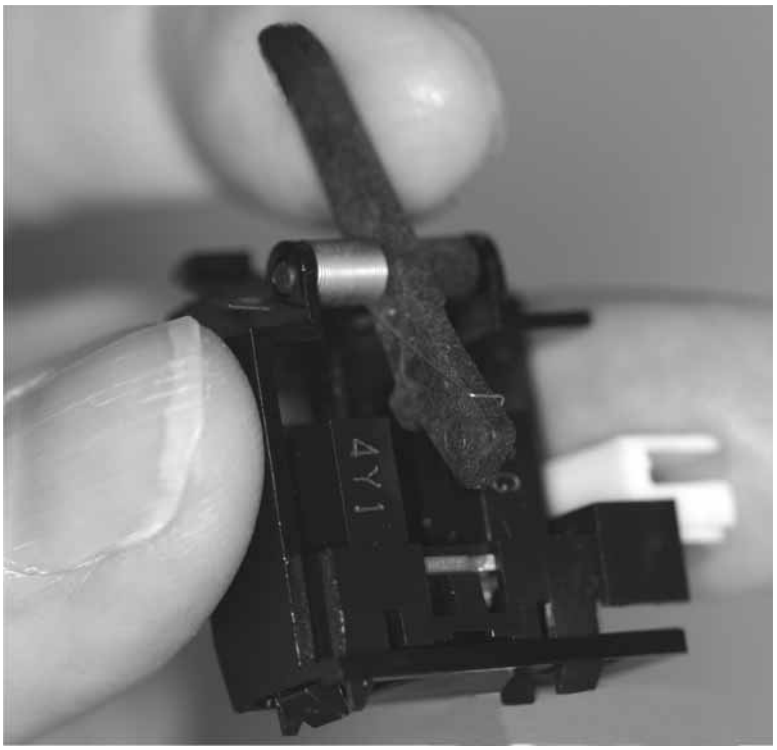
Installation

1. Move the fuser exit sensor flag out of the way to clip the sensor securely into the cover.



2. Connect the fuser exit sensor cable.
3. *Snap* the bottom fastener of the sensor cover into place in the lower exit guide, and use a small flat bladed screwdriver to ease the sensor cover into the clips.
4. Replace the screw securing the sensor cover.

Note: Make sure the flag moves properly.

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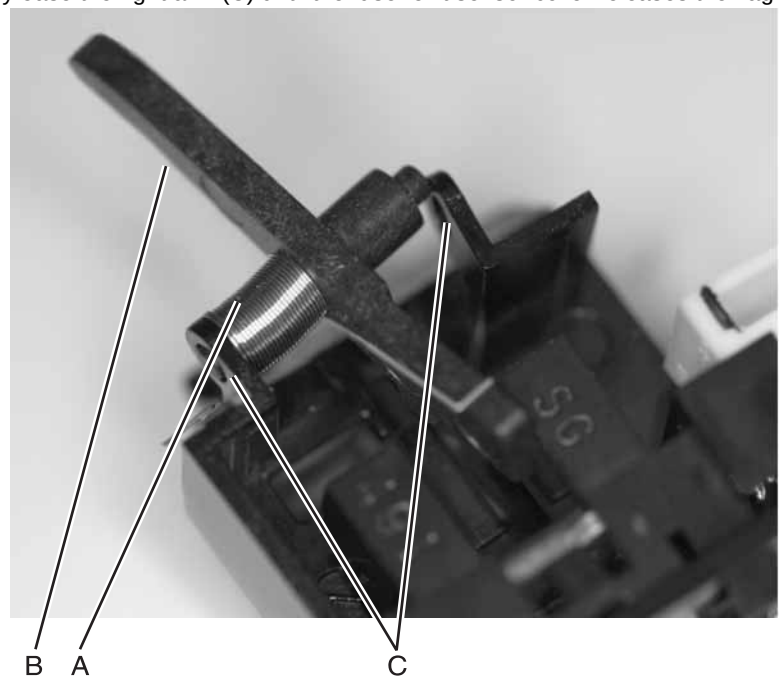
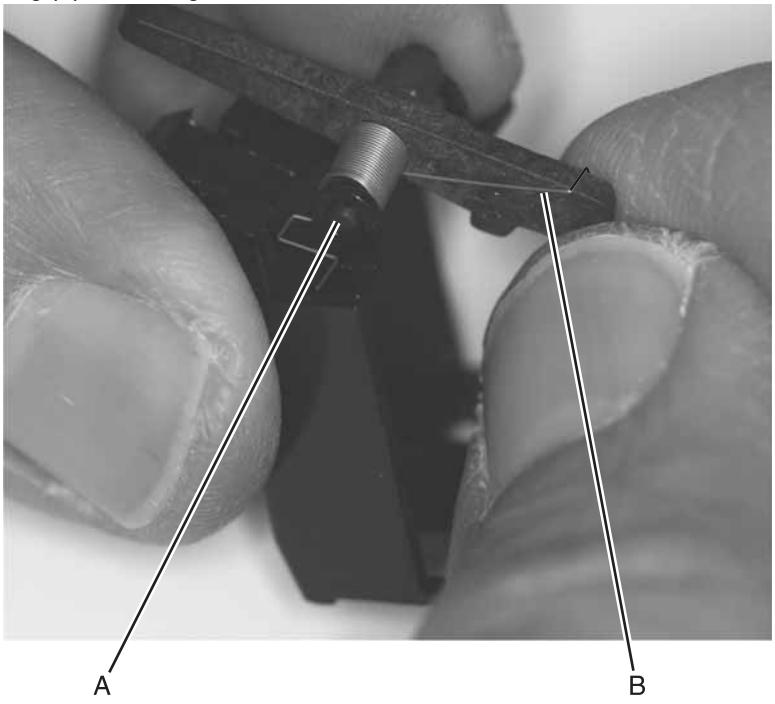
Fuser exit sensor flag and spring removal

1. Remove the fuser exit sensor. See **“Fuser exit sensor removal” on page 4-28**.
2. Note the position of the spring (A) in relation to the flag (B).
3. Carefully ease the right arm (C) until the fuser exit sensor cover releases the flag and spring.

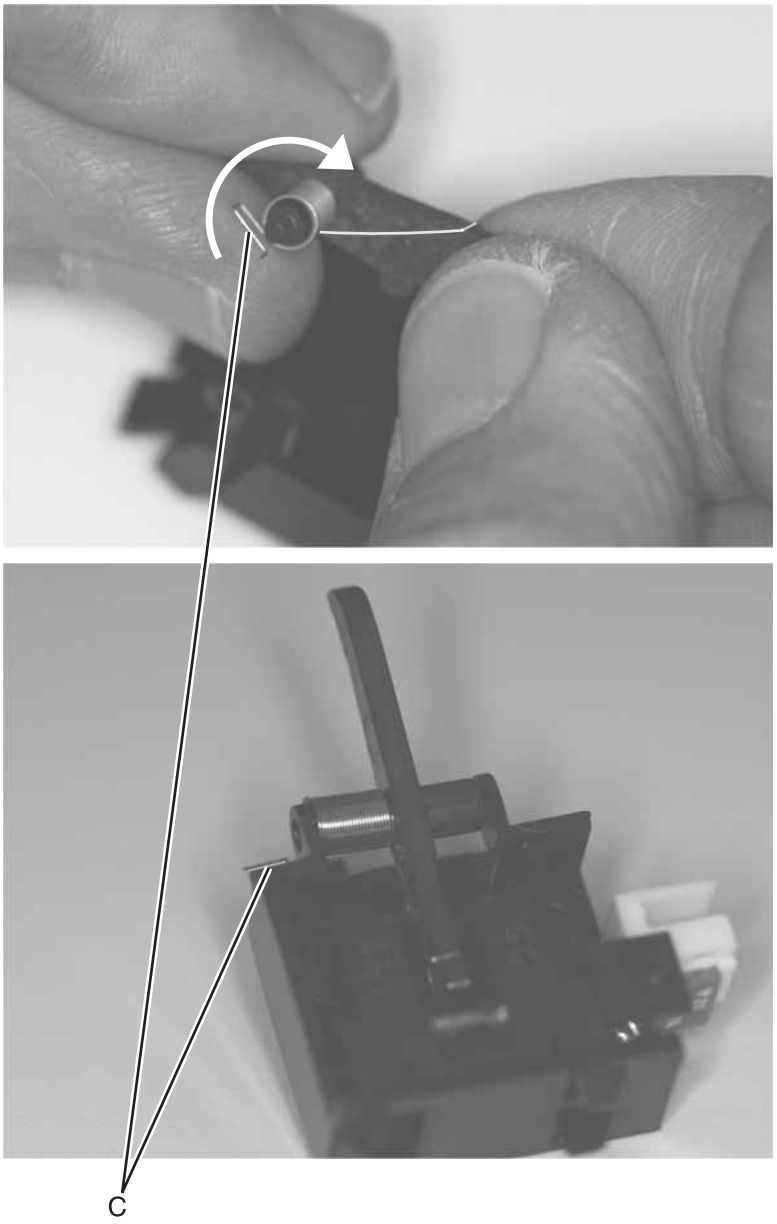


Spring replacement

1. Place the spring on the left pin (A).
2. Set the tang (B) on the flag.



3. Rotate the bent end (C) of the spring to add tension, place the pins between the sensor cover arms, and rest the bent end against the sensor cover frame.



Note: After replacing the sensor, flag, and spring, make sure the flag moves freely and returns.

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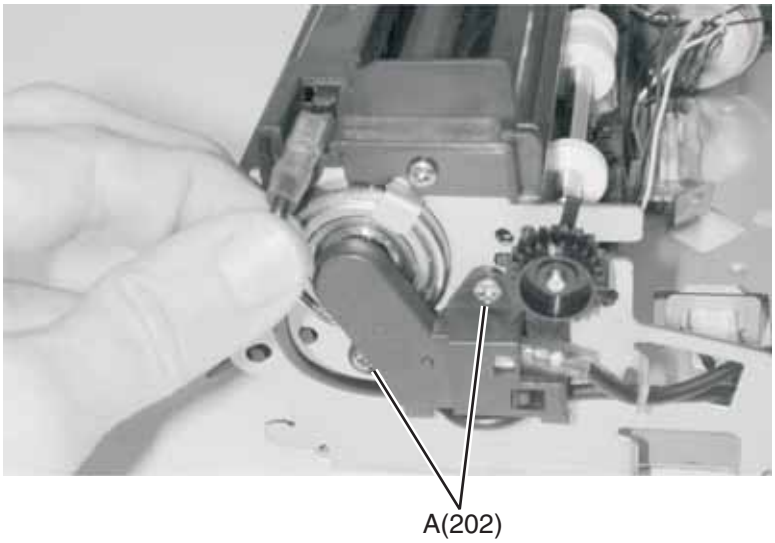
Fuser lamp removal

CAUTION: The fuser and the fuser lamp may be hot. You may need to allow them to cool before handling them.

1. Remove the fuser assembly. See **"Fuser assembly removal" on page 4-26**.
2. Disconnect the fuser lamp AC cable from the right side of the top cover assembly.
3. Remove the two screws (A) from the right side fuser lamp contact cover.

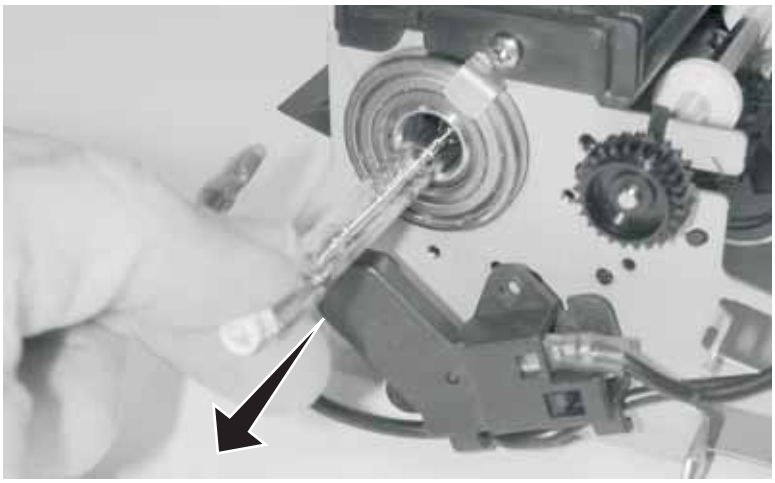
   Warning: Take care when removing the screw, as the lamp is under spring tension. When the contact is released, damage to the lamp or contact may occur.



4. Remove the left lamp contact assembly.

5. Remove the fuser lamp.

Warning: The lamp is under spring tension, and care must be used when removing the lamp from the fuser. Grip the lamp by the ceramic end piece, and remove it from the fuser assembly. Be careful not to touch the glass, as skin oils and acids can reduce the life of the lamp.



Use the following table to identify and install the correct lamp.

Description	P/N
Fuser Lamp 115 V	40X0122
Fuser Lamp 220 V	40X0123

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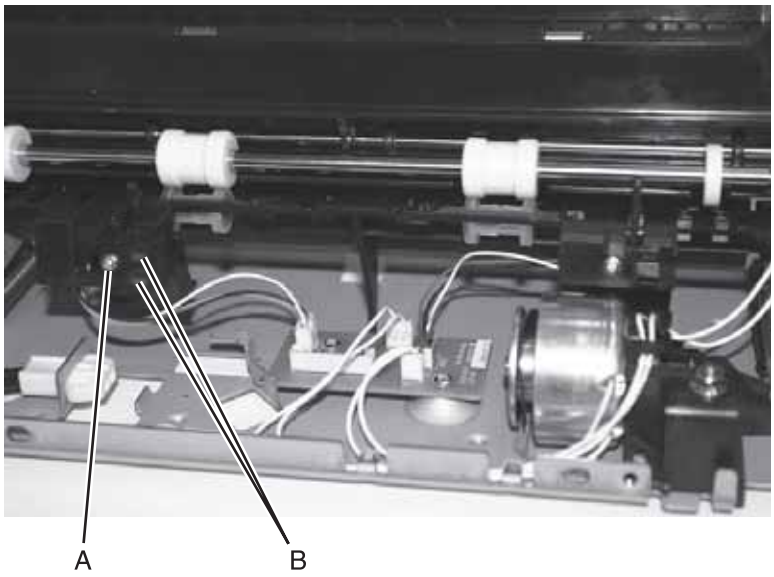
Fuser narrow media sensor removal

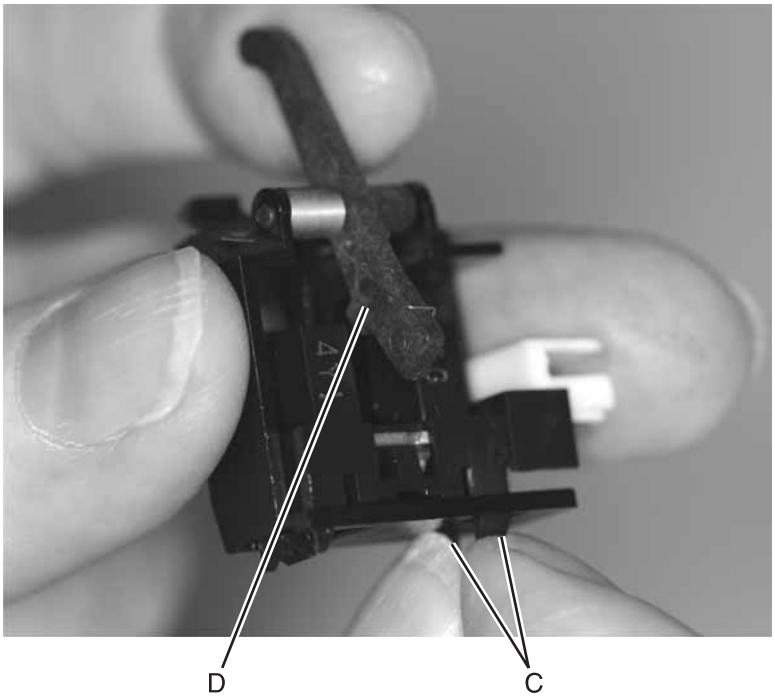
1. Remove the redrive assembly. See **“Redrive assembly removal” on page 4-74**.
2. Remove the screw (A) securing the narrow media sensor cover to the fuser.
3. With a thumbnail, release the catches (B) holding the sensor cover to the lower exit guide (C) in place.

   Note: You may need to move the narrow media flag out of the way to remove the sensor.



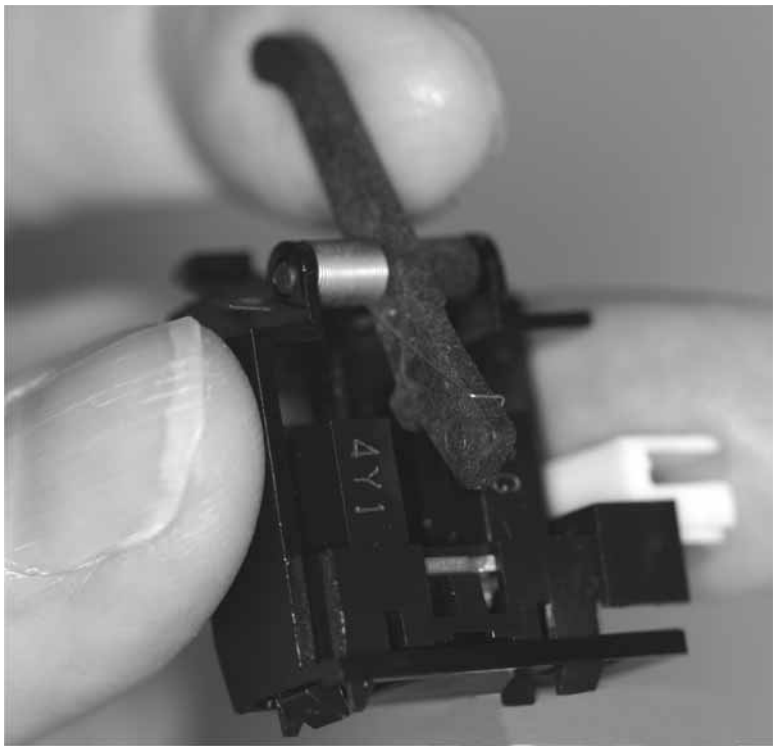
4. Disconnect the fuser narrow media cable at the sensor.
5. Release the catches holding the sensor in the cover.

   Note: Hold the narrow media flag out of the way to remove the sensor from the cover.



Replacement

1. Move the narrow media flag out of the way to clip the sensor securely into the cover.



2. Connect the fuser narrow media cable.
3. *Snap* the bottom fastener of the sensor cover into place in the lower exit guide, and rock the cover up until the top fastener *snaps* securely.
4. Replace the screw securing the sensor cover.

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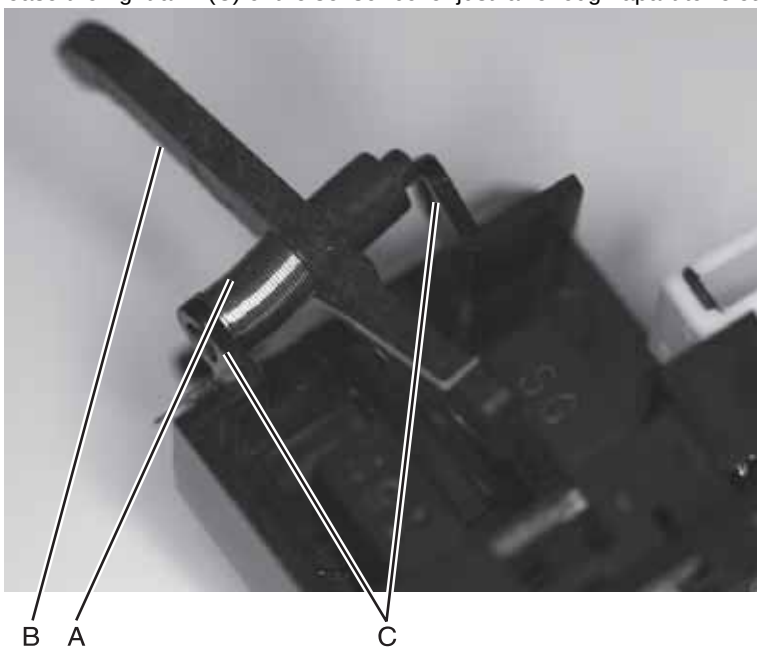
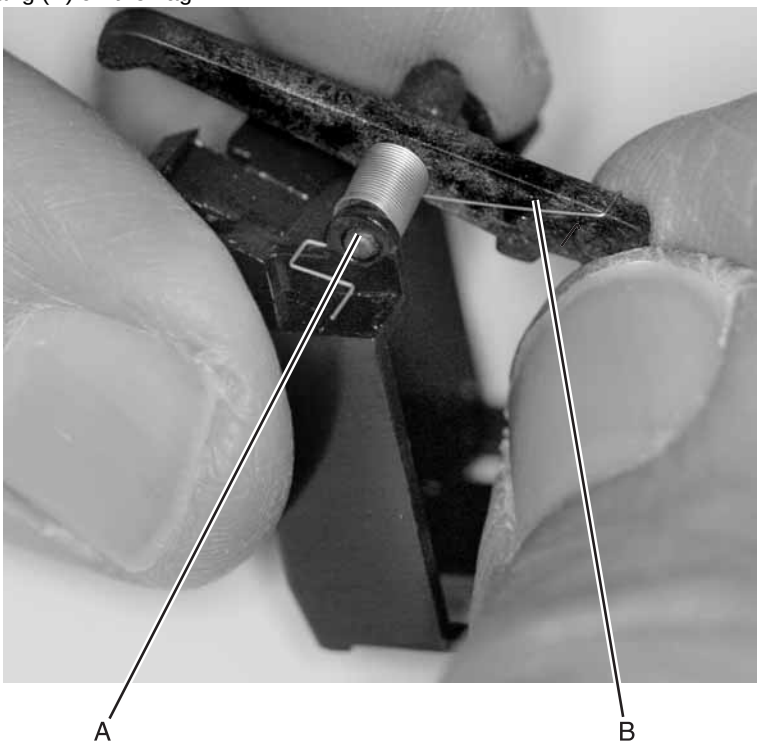
Fuser narrow media flag and spring removal

1. Remove the fuser narrow media sensor. See **“Fuser narrow media sensor removal” on page 4-34**.
2. Note the position of the spring (A) in relation to the flag (B).
3. Carefully ease the right arm (C) of the sensor cover just far enough apart to release the flag and spring.

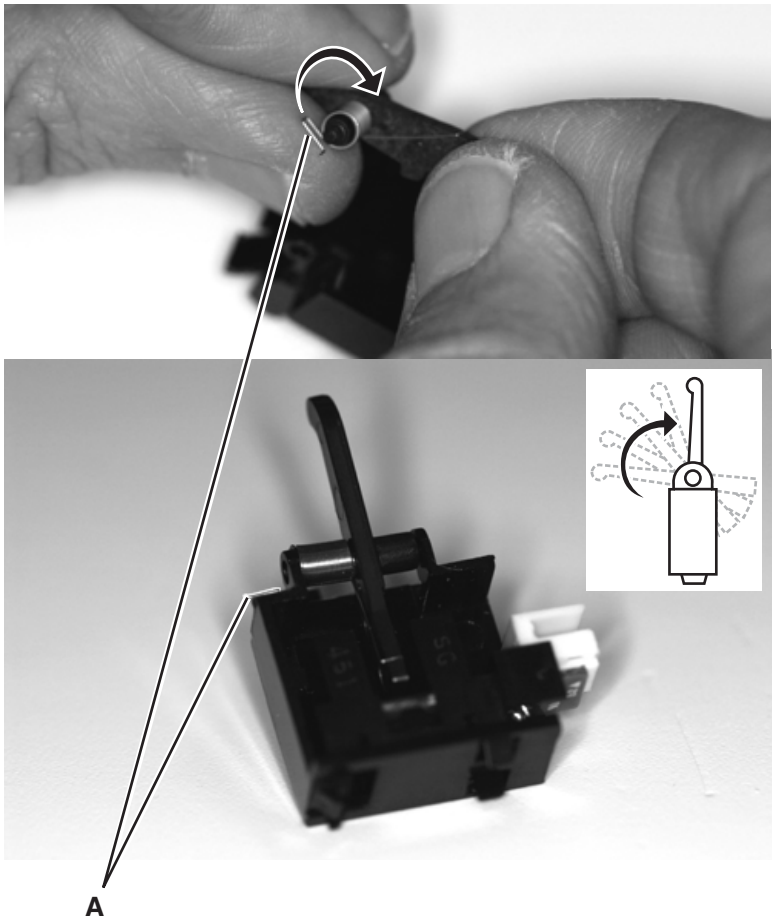


Spring replacement

1. Place the spring on the left pin (A).
2. Set the tang (B) on the flag.



3. Rotate the bent end (C) of the spring to add tension, place the pins between the sensor cover arms, and rest the bent end against the sensor cover frame.



Note: After replacing the sensor, flag, and spring, make sure the flag moves properly.

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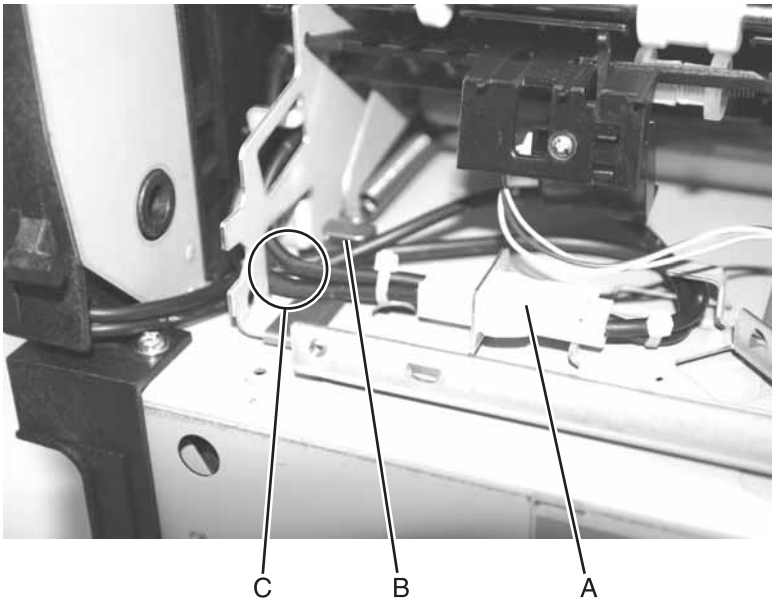
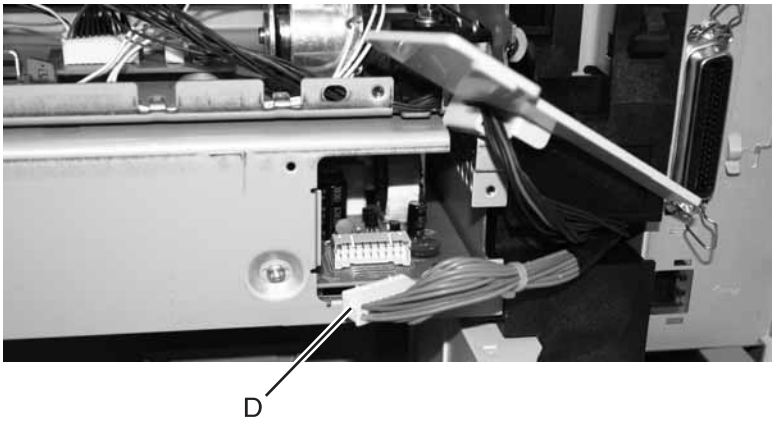
Fuser to LVPS AC cable removal

CAUTION: Unplug the printer before you begin.

1. Remove the fuser wick assembly cover. See **"Fuser wiper cover assembly removal" on page 4-4**.
2. Remove the redrive assembly. See **"Redrive assembly removal" on page 4-74**.
3. Remove the right side cover. See **"Right cover removal" on page 4-8**.
4. Disconnect the fuser to LVPS AC cable (A) from the fuser lamp connector on the fuser, and remove the cable through the cable retainer (B) and the lower rectangular opening (C) in the fuser frame.

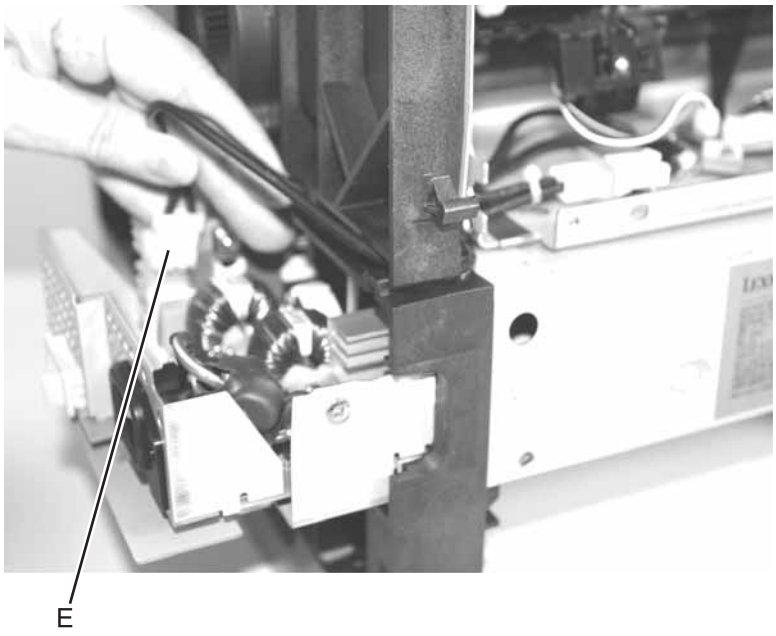


5. Remove the pass thru plate. See **"Pass thru plate" on page 4-18**.
6. Disconnect the LVPS to system board DC cable (D) from the LVPS.



7. Pull the LVPS assembly far enough out from the right side of the printer to disconnect the fuser to LVPS AC cable from the LVPS (E).

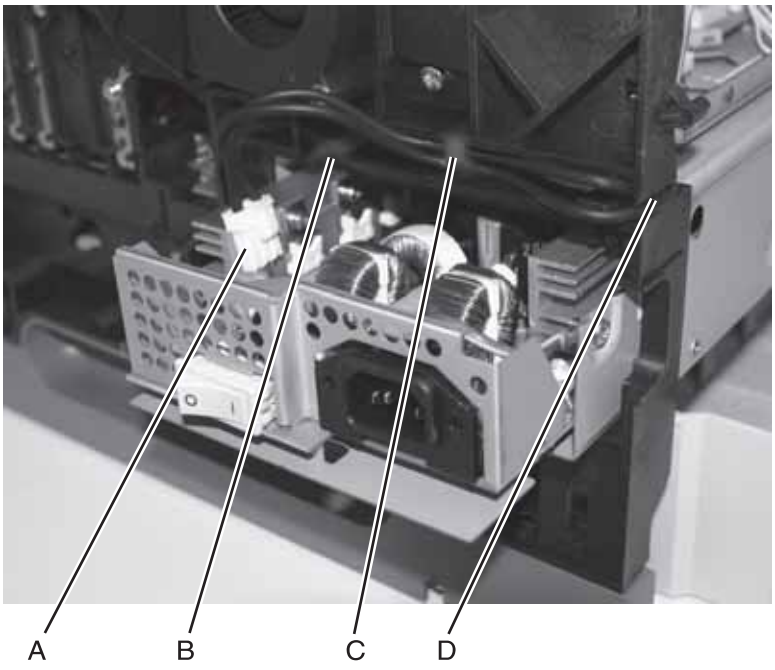
   Note: The LVPS assembly may be difficult to remove from the printer. Do not use excessive force in the removal.



8. Remove the fuser to LVPS AC cable.

Installation

1. Plug in the fuser to LVPS AC cable (A) into the LVPS.
2. Route the cable through the channel (B) on the right side frame above the LVPS, under the clip (C) over the LVPS, and through the notch in the frame (D).



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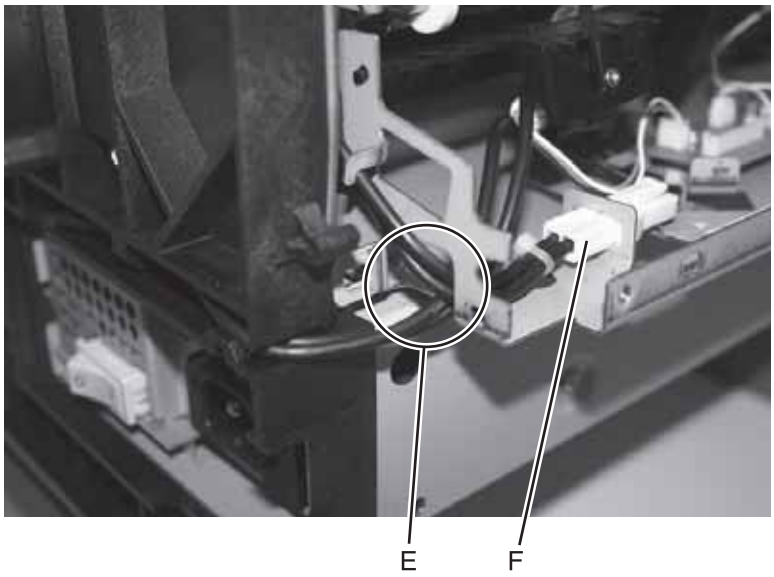
3. Route the cable through the lower rectangular opening (E).
4. Connect the fuser to LVPS AC cable to the fuser lamp connector (F).

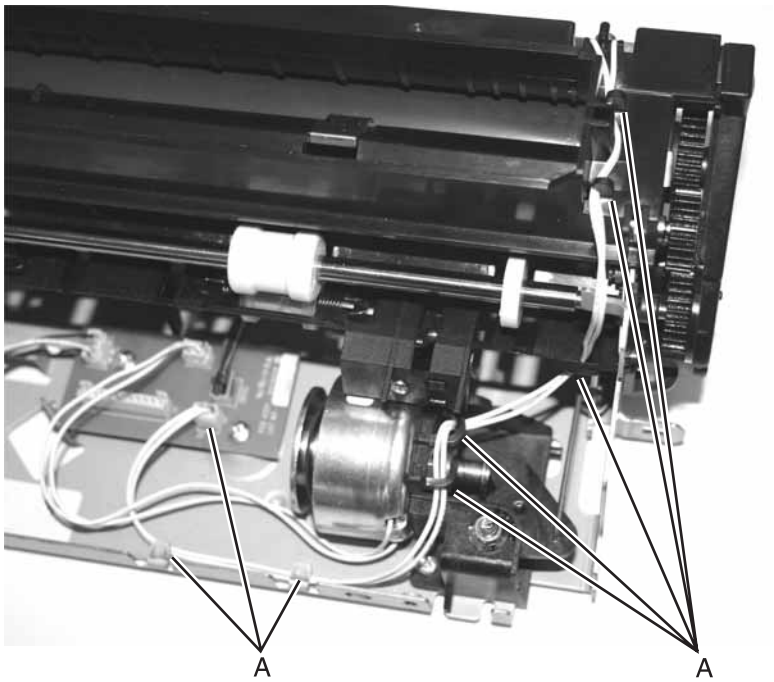


Note: Be sure to connect the fuser to system board DC cable after replacing the LVPS.

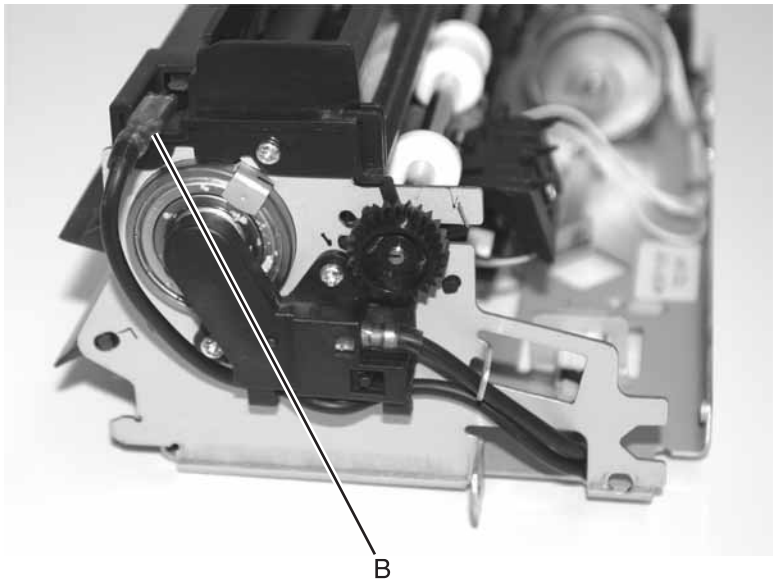
Fuser top cover removal

CAUTION: Unplug the printer before you begin.

1. Remove the fuser assembly. See **"Fuser assembly removal" on page 4-26**.
2. Note the thermistor cable routing (A) and disconnect the thermistor cable at the fuser control board.



3. Disconnect the AC fuser lamp cable (B) from the top right side of the fuser cover.



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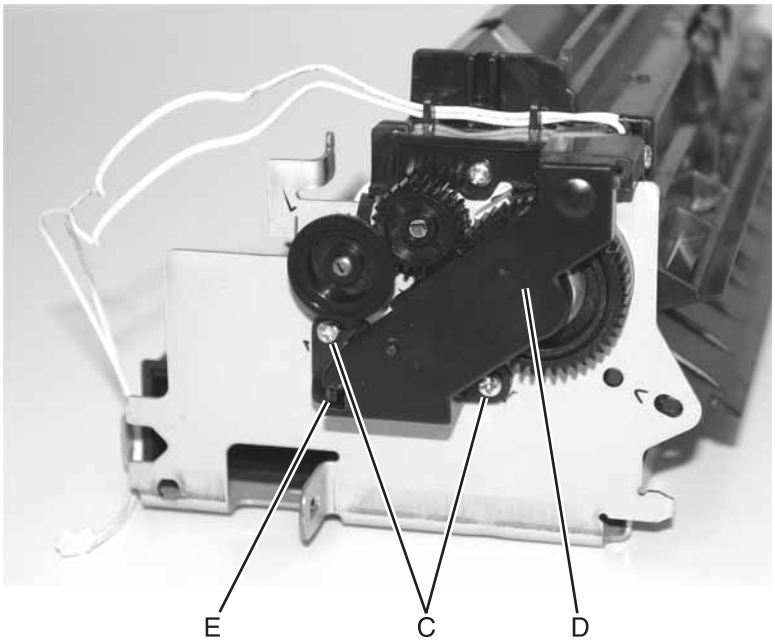
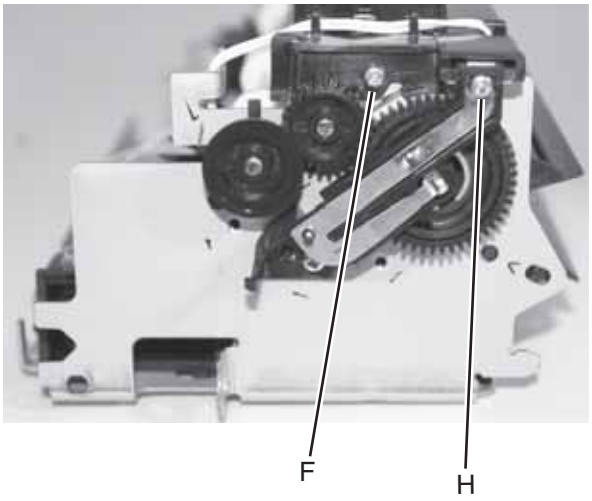
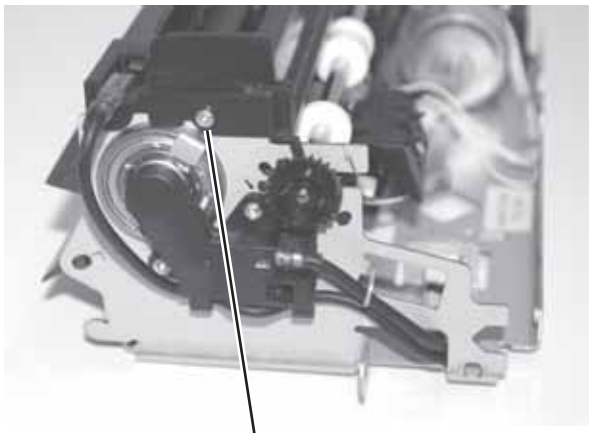
4. Carefully remove the two screws (C) from the right side of the fuser lamp contact cover (D).
5. Release the latch (E) and remove the cover.



6. Remove the screw (F) on the left side and the screw (G) on the right side that attach the fuser upper cover assembly to the fuser frame.
7. Remove screw (H) that attaches the side fuser lamp contact to the fuser top cover.





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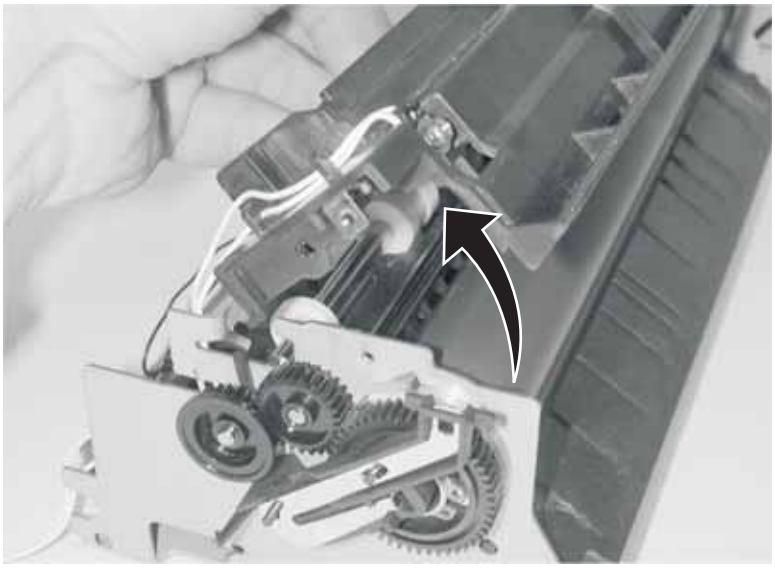
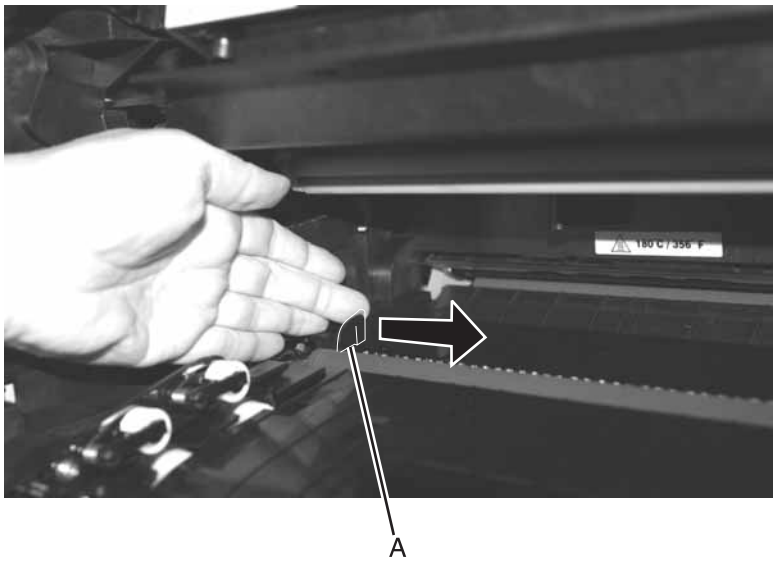
8. Remove the fuser cover.



Fuser transfer plate removal

1. Remove the upper paper deflector. See **“Upper paper deflector assembly removal” on page 4-79**.
2. Remove the transfer roll. See **“Transfer roll assembly removal” on page 4-77**.
3. Remove the inner paper deflector. See **“Inner paper deflector assembly removal” on page 4-47**.
4. Lift the left side of the fuser transfer plate (A), and move the plate to the left to clear the right side from its mounting.



5. Remove the screw that attaches the transfer plate ground wire to the center pan.
6. Remove the fuser transfer plate.
7. Remove the screw that attaches the deflector cable to the transfer plate.

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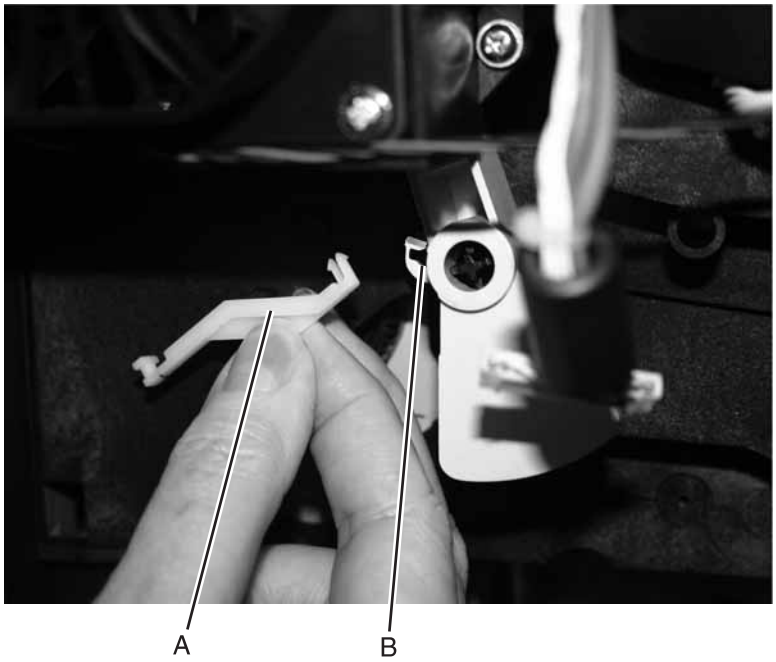
Gear release link removal

1. Remove the system board and inner shield. See **"System board and inner shield removal" on page 4-76**.
2. Remove the developer drive.
3. Disconnect the gear release link (A) from the hole in charge roll link (B).

   Note: Lift the upper front cover to make it easier to remove the link.



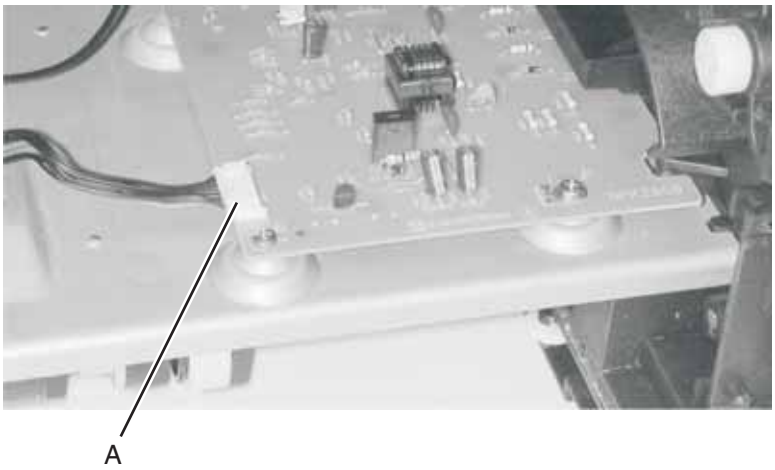
4. Rotate the link to disconnect the link from the main drive assembly.

5. Remove the gear release link.

High voltage power supply removal

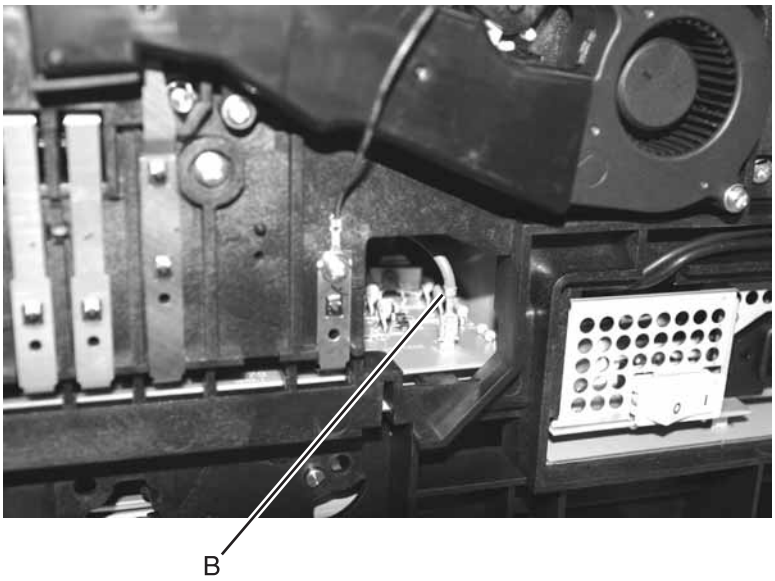
CAUTION: There is a danger from hazardous voltage in the area of the printer where you are working. Unplug the printer before you begin, or use caution if the printer must receive power in order to perform the task.

1. Remove the inner paper deflector. See **"Inner paper deflector assembly removal" on page 4-47**.
2. Remove the right side cover. See **"Right cover removal" on page 4-8**.
3. Disconnect the HVPS cable from the HVPS at connector (A).



4. Disconnect the transfer roll cable (B) from the HVPS board.

Warning: Use care when disconnecting the cable from the transformer on the HVPS. The cable and connector can be easily damaged.



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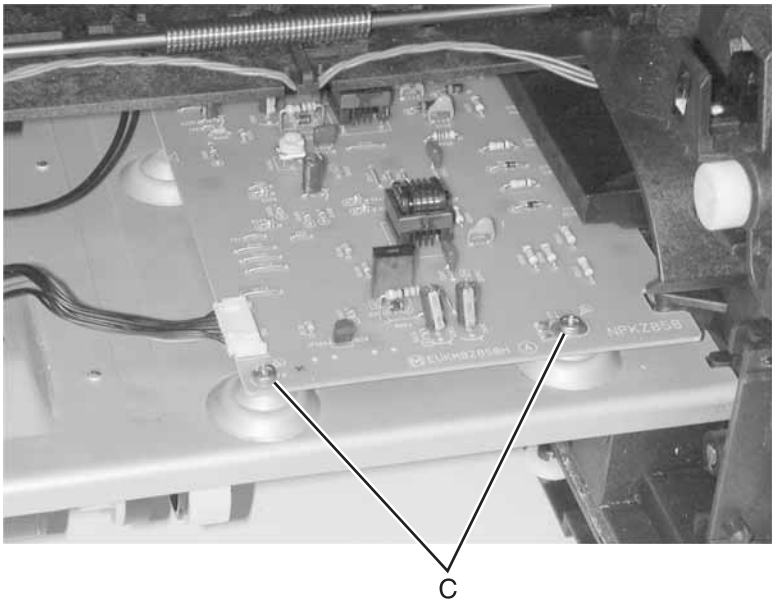
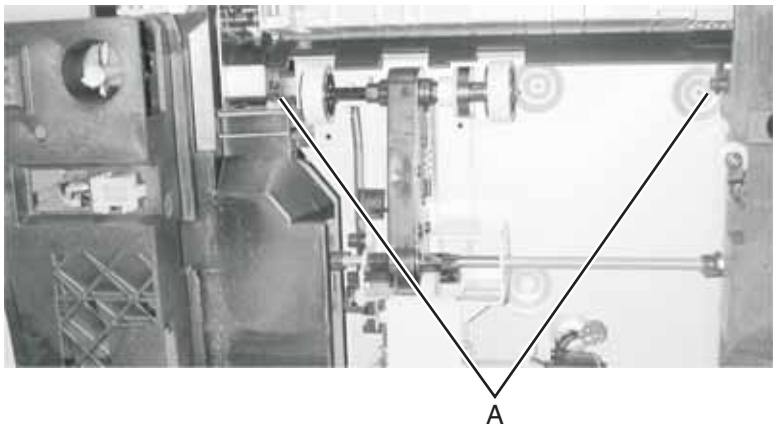
5. Remove the HVPS mounting screws (C).



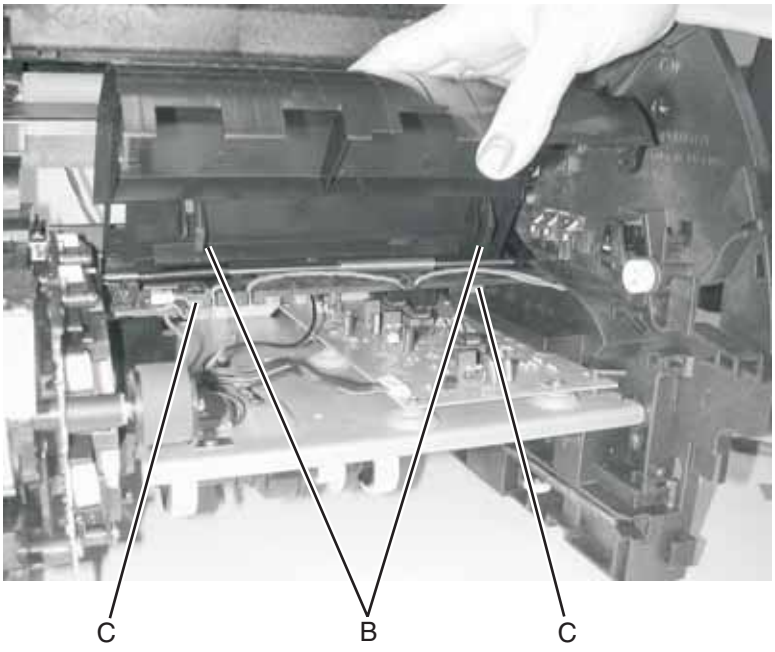
6. Slide the HVPS to the left to release the mounting tab from the center pan, and remove the HVPS.

Inner paper deflector assembly removal

1. Remove the paper tray.
2. Remove the upper paper deflector assembly. See **“Upper paper deflector assembly removal” on page 4-79**.
3. Remove the MPF lower deflector assembly. See **“MPF lower paper deflector” on page 4-61**.
4. Place the printer on its side.
5. Gently pry the inner paper deflector from the left and right mounting posts (A) located on the bottom of the printer, and remove the deflector.



6. Disengage the two latches (B) on the upper part of the deflector from the upper edge of the frame (C), and lift to remove.



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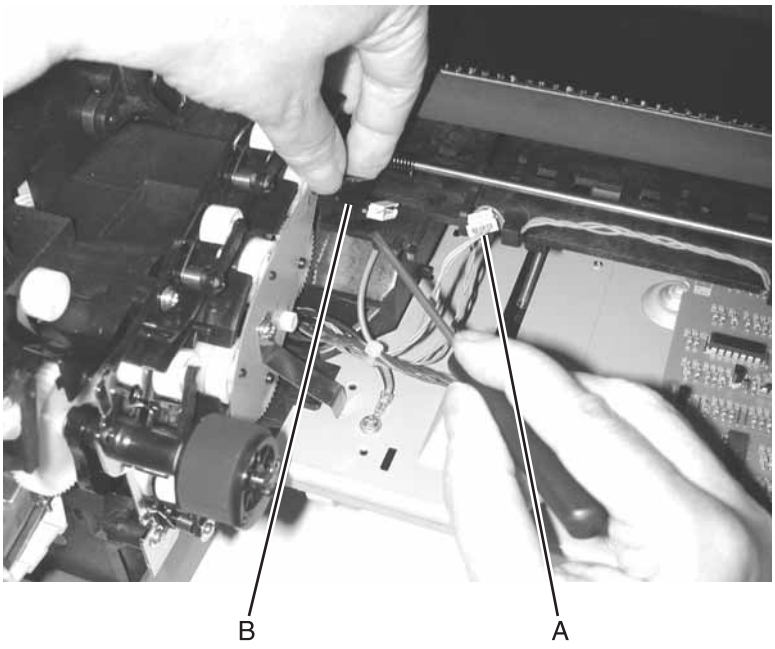
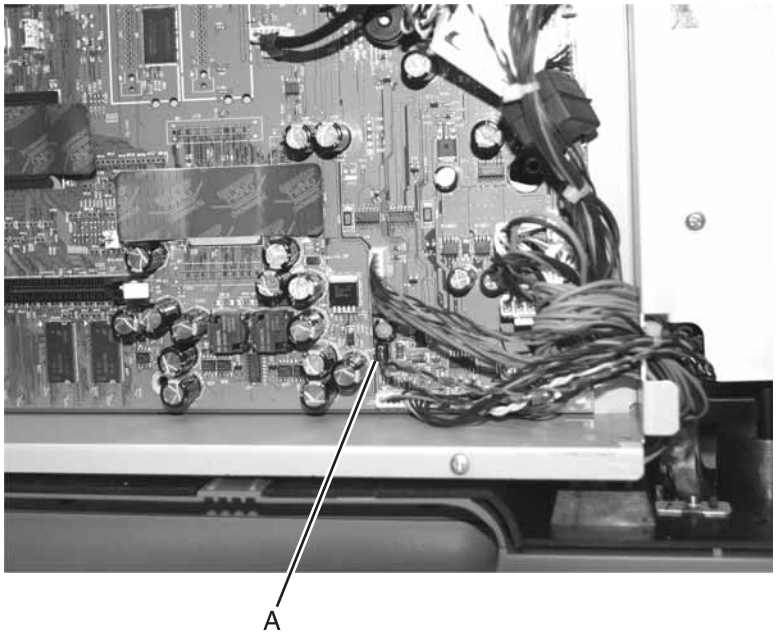
Input sensor removal

1. Remove the upper paper deflector. **“Upper paper deflector assembly removal” on page 4-79**.
2. Loosen the MPF lower front cover. See **“Multipurpose feeder/lower front cover assembly removal” on page 4-15**.
3. Remove the inner paper deflector.**“Inner paper deflector assembly removal” on page 4-47**.
4. Disconnect the input sensor cable (A) from the input sensor (B).
5. Release the input sensor from its mounting, and remove.



Integrated tray autocompensator assembly removal

1. Remove the paper tray.
2. Remove the left door. See **“Left door removal” on page 4-6**.
3. Remove the outer shield. See **“Outer shield removal” on page 4-67**.
4. Place the printer on its back.
5. Disconnect the autocompensator motor cable (A) from the system board (J24).



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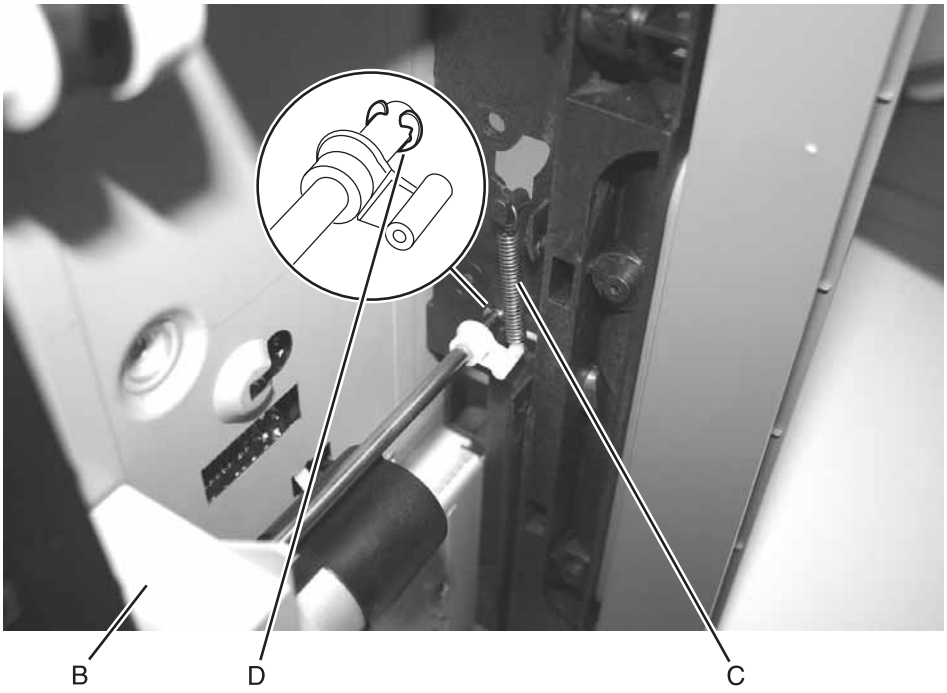
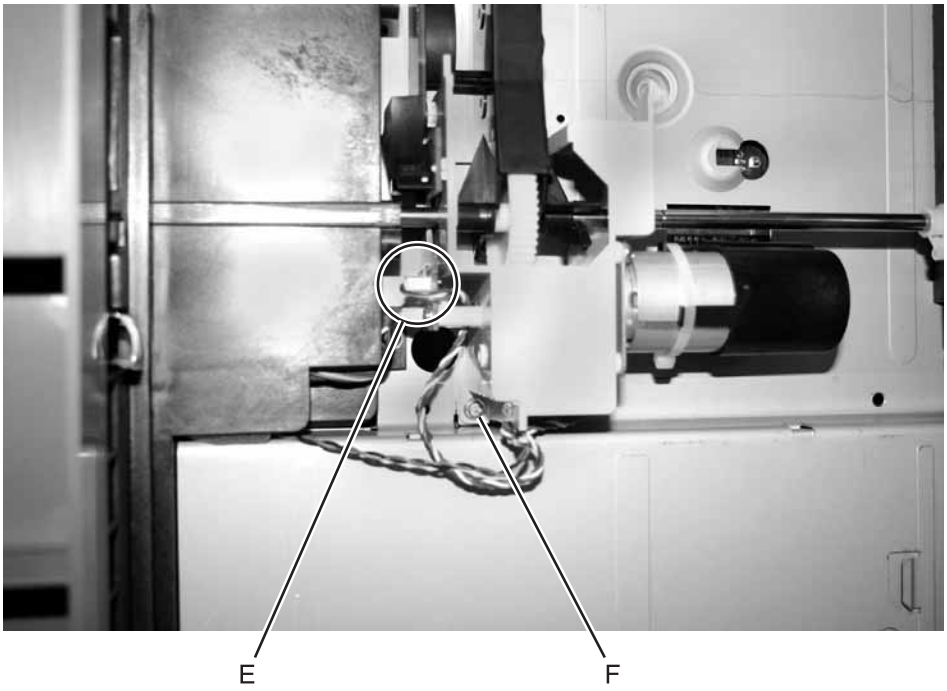
6. Locate the integrated tray autocompensator assembly (B) on the bottom of the printer, and disconnect the autocompensator arm bias spring (C).

   Note: When you remove the spring, note the larger loop attaches to the side frame.

7. Remove the C-clip (D) that rests against the right side frame from the autocompensator pivot shaft.



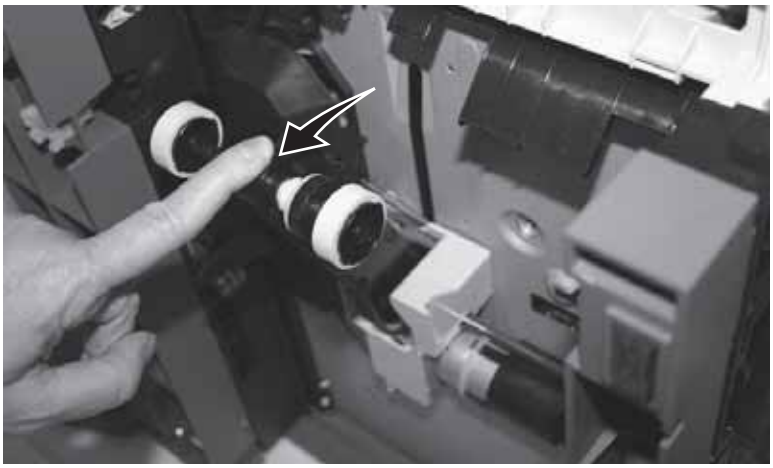
8. Disconnect the autocompensator sensor cable (E) from the assembly.
9. Remove the autocompensator assembly mounting screw (F).



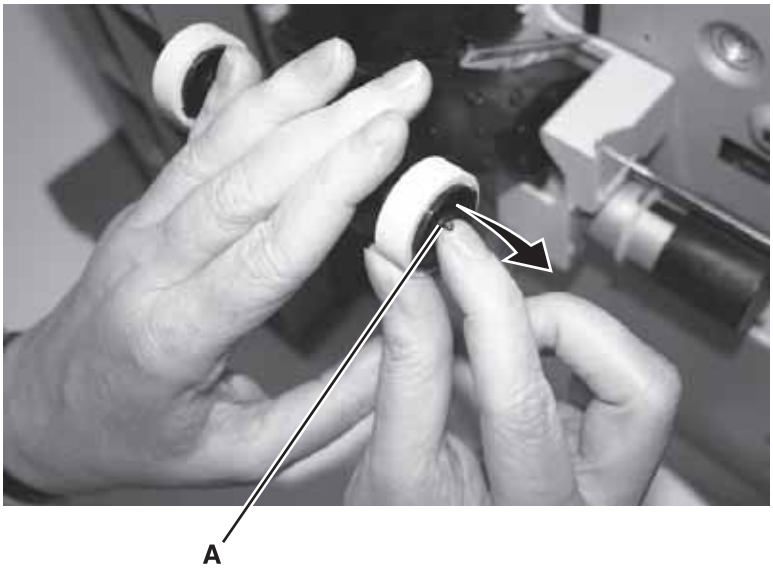
10. Slide the shaft to the right, and push the shaft from the outside of the frame.
11. Remove the integrated tray autocompensator assembly.

Integrated tray autocompensator pick roll assembly removal

1. Remove the integrated tray, and look underneath the printer for the autocompensator arm. Pull the arm down.



2. Press on the end of the tab (A) and pull the pick roll off the arm. Repeat this step for the pick roll on the other side. Next, gently release the autocompensator arm. Discard the used pick rolls.



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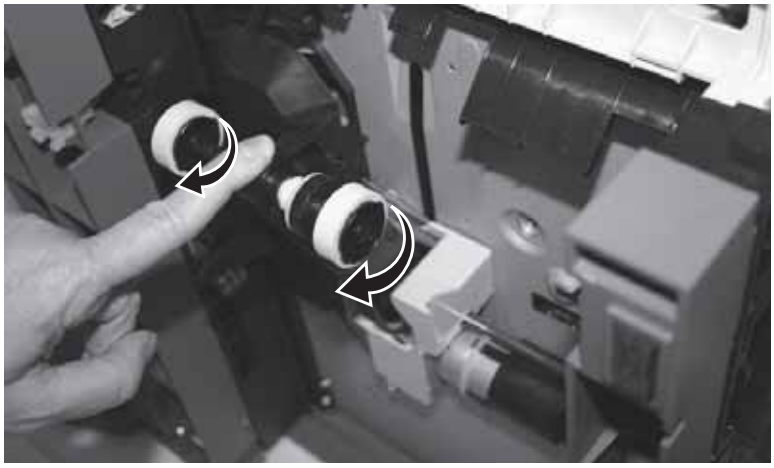
Installation

1. Remove the new pick rolls from their packaging.
2. Pull the autocompensator arm down. Locate the recessed area on the pick roll, and align it with the tab on the arm. There are two arrows on each pick roll. Make sure the bottom arrow faces you as you align the recessed area with the tab.



3. Push the pick roll onto the arm with the tab aligned. Repeat this step on the other side to install the other pick roll.

4. Gently release the autocompensator arm. Insert, integrated tray.

Interconnect card assembly removal

CAUTION: Unplug the printer before you begin.

Warning: When replacing any one of the following components:

- Operator panel assembly (or upper front cover)
- System board assembly
- Interconnect card assembly

Only replace one component at a time. Replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable.

Warning: Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a printer, it can not be used in another printer. It must be returned to the manufacturer.

Warning: Observe all ESD precautions while handling ESD-sensitive parts. See **“Handling ESD-sensitive parts” on page 4-1**.

Note: Any time the interconnect card assembly is replaced, the Configuration ID must be reset in NVRAM on the new interconnect card. Go to **“Configuration ID” on page 3-21**.

1. Remove any feature or option cards from the interconnect card.
2. Remove the two screws securing the interconnect card.
3. Remove the interconnect card assembly.

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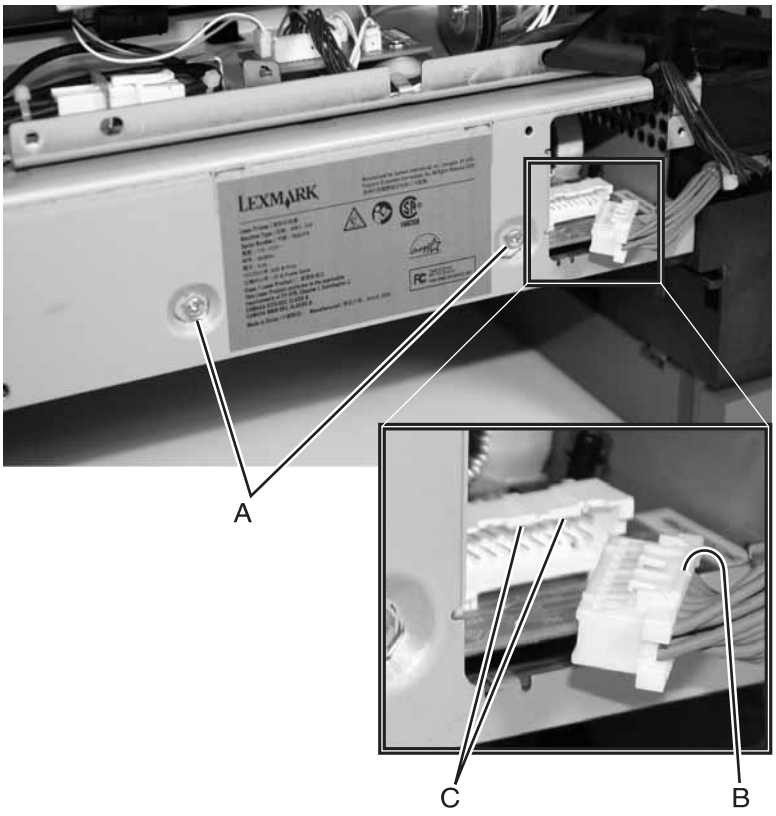
Low voltage power supply removal

CAUTION: Unplug the printer before you begin.

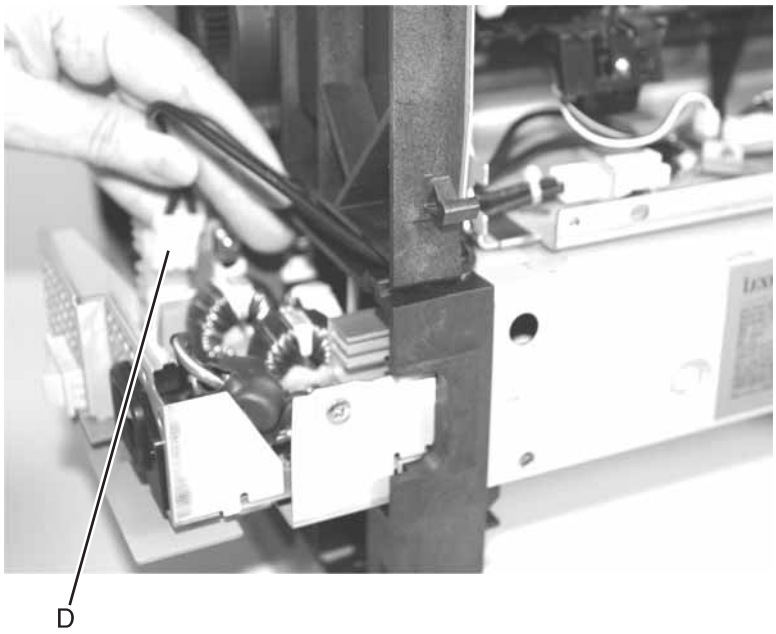
1. Remove the redrive assembly. See **"Redrive assembly removal" on page 4-74**.
2. Remove the right side cover. See **"Right cover removal" on page 4-8**.
3. Remove the pass thru plate. See **"Pass thru plate" on page 4-18**.
4. Remove the LVPS mounting screws (A) from the rear of the center pan.
5. Disconnect the LVPS to system board cable.

   The cable is difficult to disconnect. There are catches (B) that firmly hold latches on the LVPS card connector (C).



6. Pull the LVPS assembly far enough out from the right side of the printer to disconnect the fuser to LVPS AC lamp cable (D).

   Warning: The LVPS assembly may be difficult to remove from the printer. Do not use excessive force in the removal.



7. Remove the low voltage power supply.

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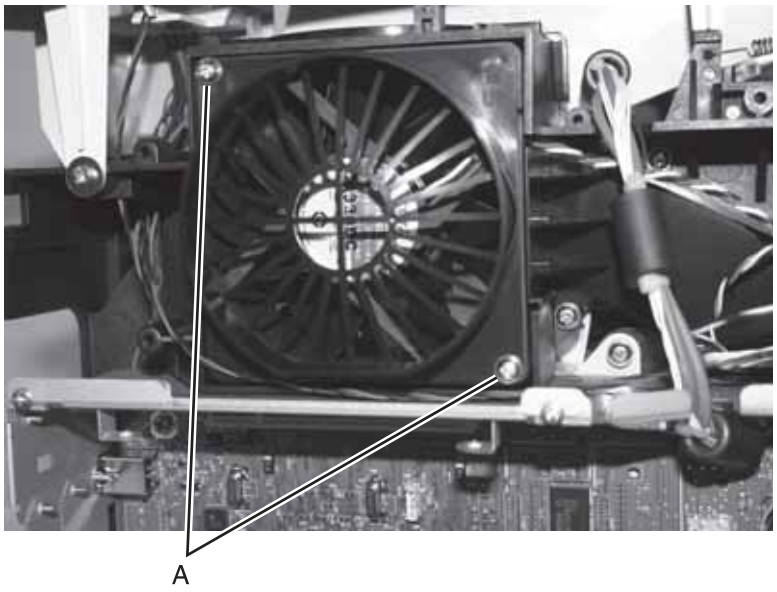
Main fan removal

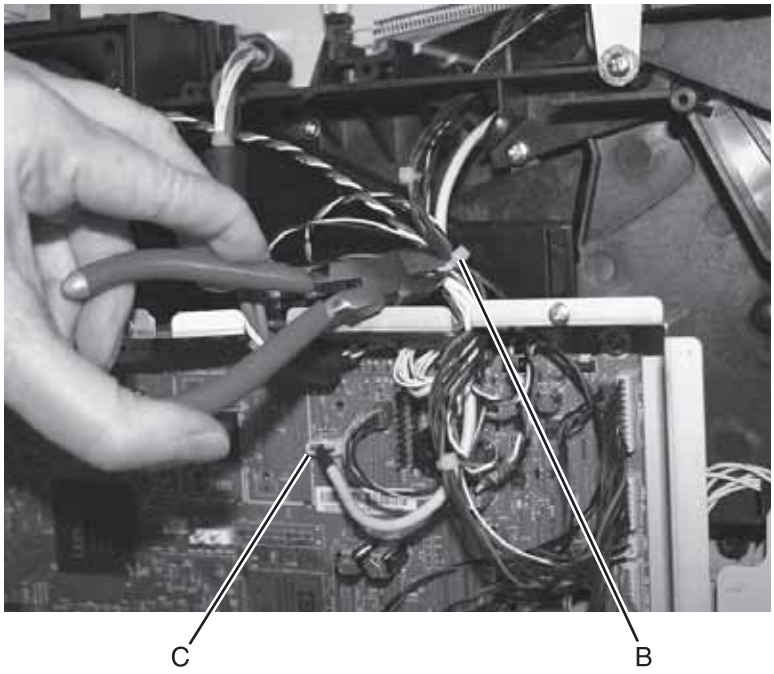
1. Open the left side cover.
2. Remove the outer shield. See **"Outer shield removal" on page 4-67**.
3. Remove the two screws (A) securing the main fan cap.



4. Remove the main fan cap.
5. Clip the cable tie (B).

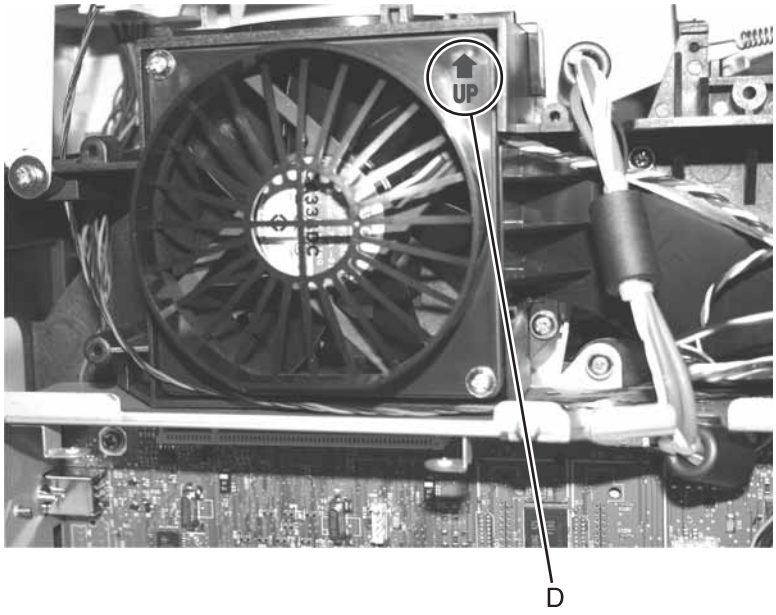
   Note: Be careful not to damage any of the cables. Note the location of the cable tie for later replacement.

6. Disconnect the main fan to the system board (C) at J4.



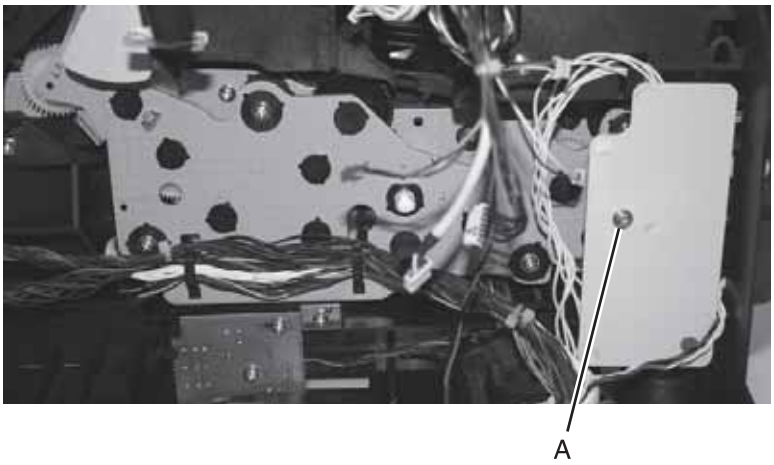
7. Remove the main fan.

Installation note: The fan has an orientation marking (D). Be sure to install the fan with the arrow pointing up.



Main drive assembly removal

1. Remove the system board and inner shield. See **"System board and inner shield removal" on page 4-76**.
2. Remove the screw securing the gear guard (A).



3. Remove the power take off shaft and spring. See **"Power takeoff shaft and spring removal" on page 4-72**.
4. Remove the developer drive assembly. See **"Developer drive assembly removal" on page 4-24**.

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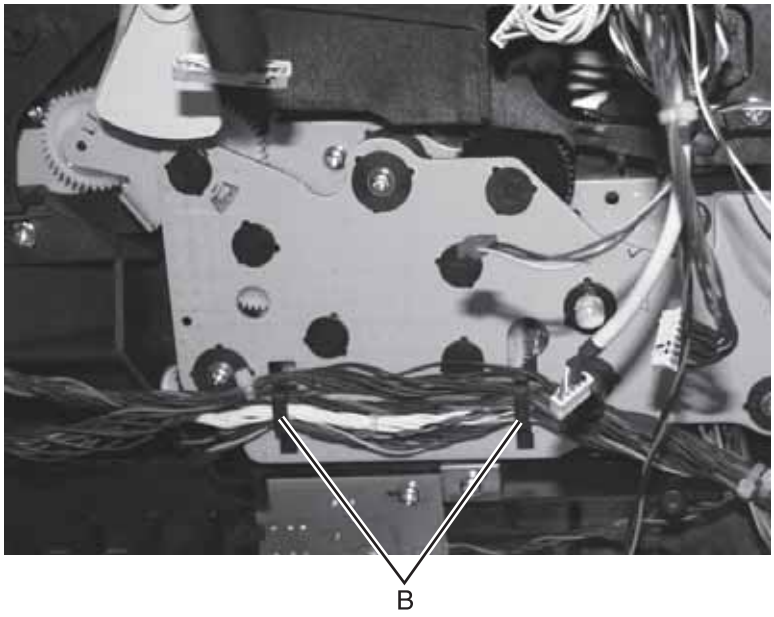
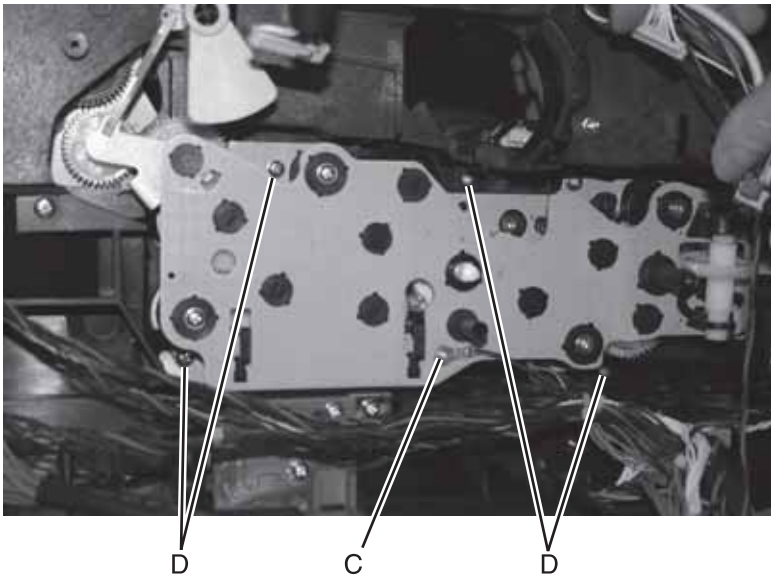
5. Lift and remove the cables from the cable hooks (B).

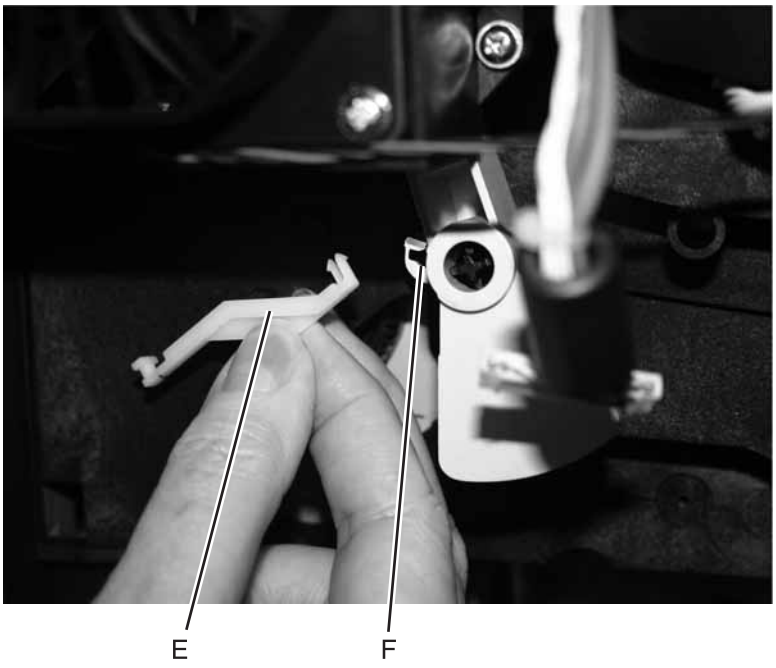


6. Remove the ground cable screw (C).
7. Remove the main drive assembly mounting screws (D).



8. Disconnect the gear release link (E) from the hole in the charge roll link (F).

   Note: Lift the upper front cover to make it easier to remove the link.



9. Disconnect the main drive motor cable from the main drive assembly.
10. Remove the main drive assembly.

Warning: Whenever the main drive assembly is removed from the printer it must be handled very carefully. Do not allow any of the gears to come in contact with any metal or other hard surface to avoid gear damage. It is also very important not to let any dirt, paper, staples, or other material come in contact with the grease in the gears.

Note: Be sure the main drive assembly gear shaft aligns with the hub on the left side frame when reinstalling the main drive assembly.

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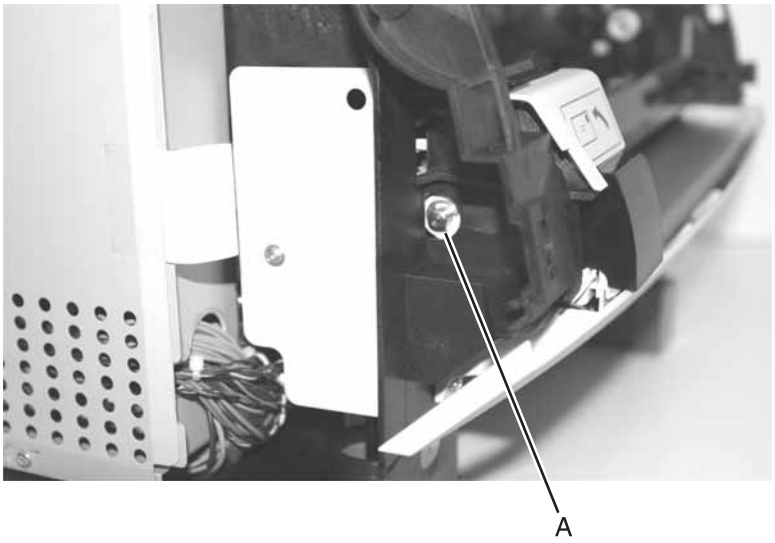
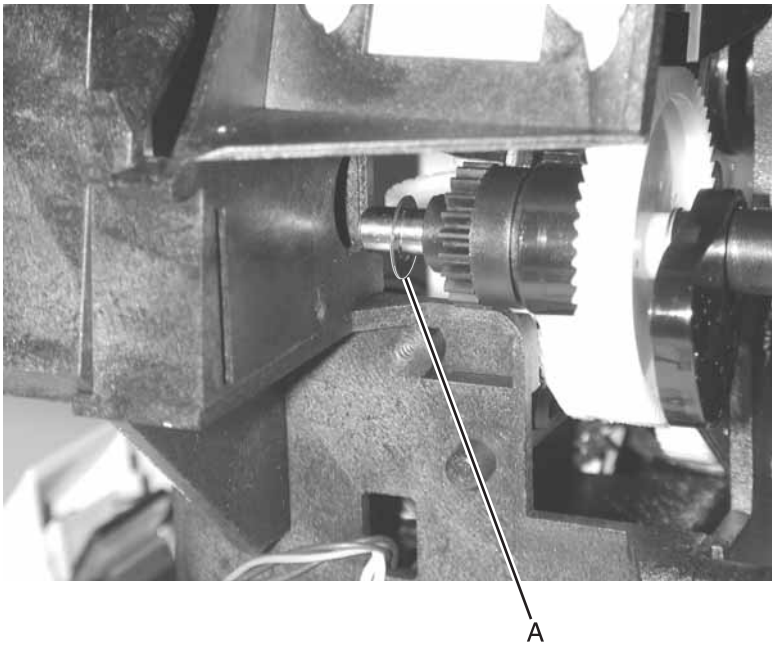
MPF arm assembly removal

1. Open the left door.
2. Remove the MPF lower front cover. See **“Multipurpose feeder/lower front cover assembly removal” on page 4-15**.
3. Remove the MPF lower paper deflector. See **“MPF lower paper deflector” on page 4-61**.
4. Remove the upper paper deflector. See **“Upper paper deflector assembly removal” on page 4-79**.
5. Remove the inner paper deflector. See **“Inner paper deflector assembly removal” on page 4-47**.
6. Remove the MPF solenoid assembly. See **“MPF solenoid assembly removal” on page 4-62**.
7. Remove the C-clip (A).



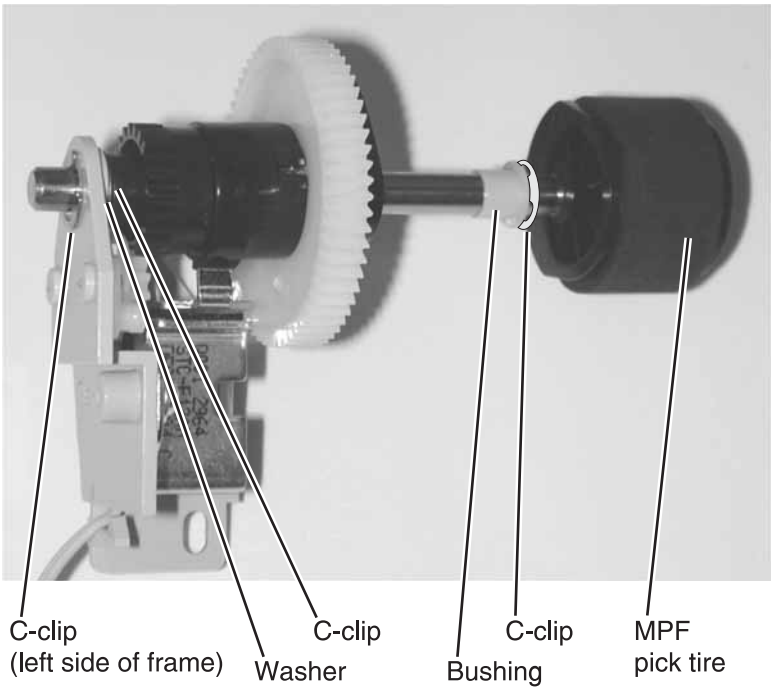
8. Remove the washer, and set it aside.



9. Remove the MPF arm assembly.

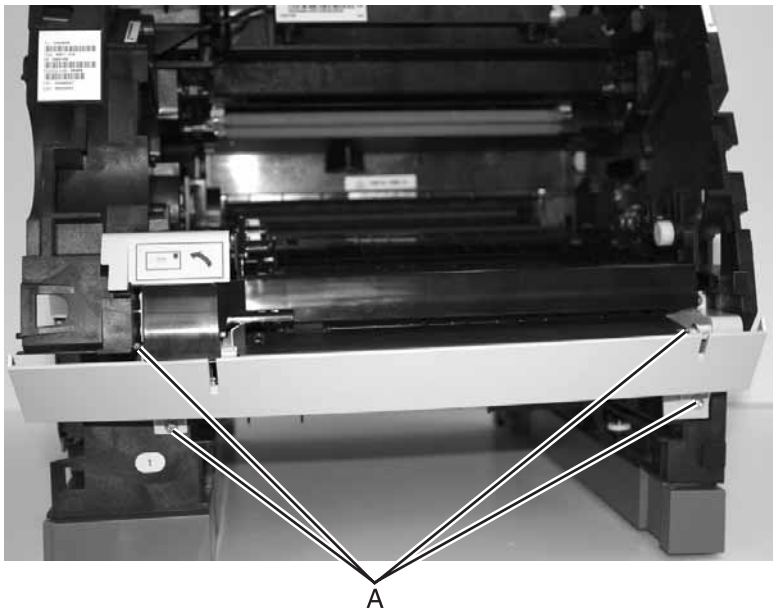
Installation note:

Note the order of C-clips bushing, and washer when you reinstall.



MPF lower paper deflector

1. Remove the MPF lower cover.
2. Remove the four screws securing the MPF lower paper deflector.



3. Remove the defector.

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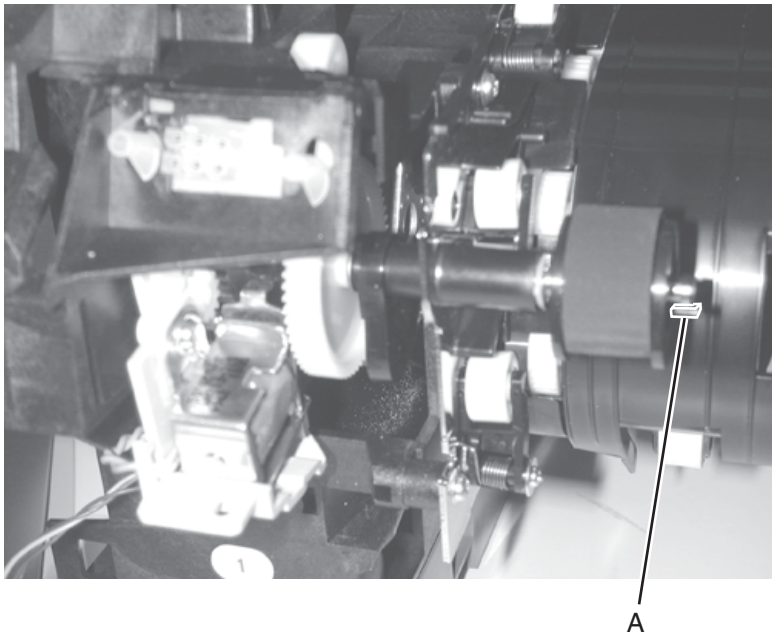
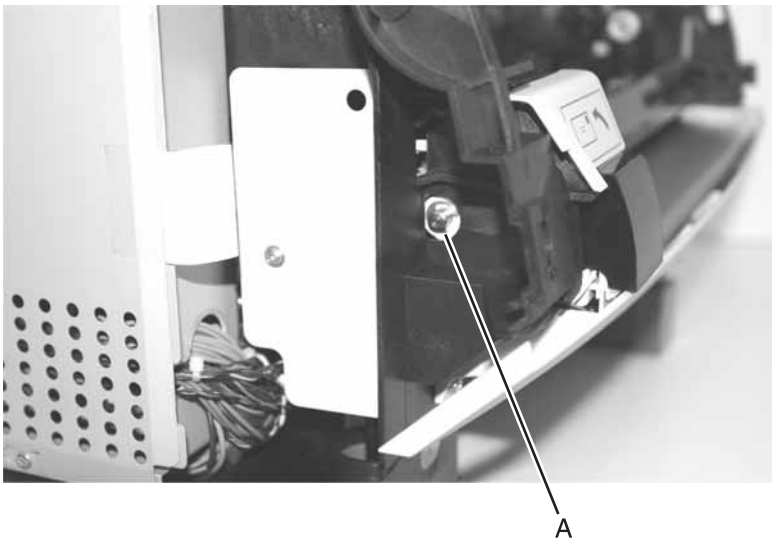
MPF pick tire removal

1. Remove the upper paper deflector. See **“Upper paper deflector assembly removal” on page 4-79**.
2. Release the pick roll retaining tab (A), and slide the pick roll off the shaft.

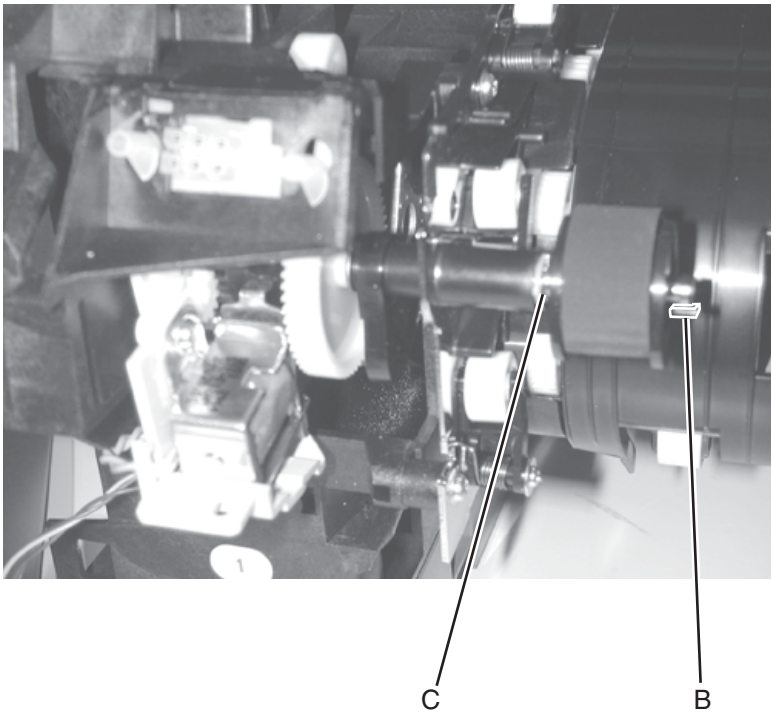


MPF solenoid assembly removal

1. Open the left door.
2. Remove the MPF lower front cover. See **“Multipurpose feeder/lower front cover assembly removal” on page 4-15**.
3. Remove the MPF lower paper deflector. See **“MPF lower paper deflector” on page 4-61**.
4. Remove the upper paper deflector. See **“Upper paper deflector assembly removal” on page 4-79**.
5. Remove the C-clip (A) on the left side.

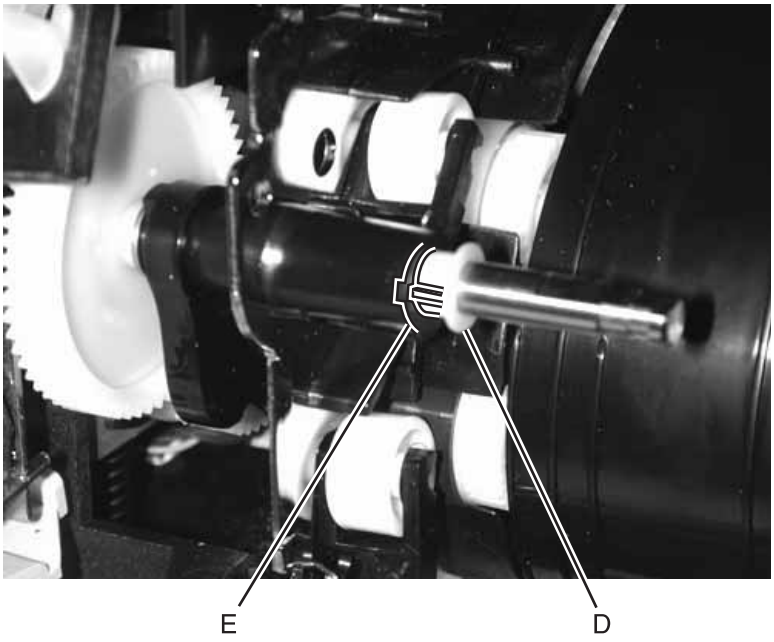


6. Press the clips on the end of the shaft to remove the MPF tires (B).
7. Remove the C-clip (C) on the shaft.



8. Remove the bushing (D).

   Note: The bushing fits into a detent (E) in the frame of the MPF arm assembly.



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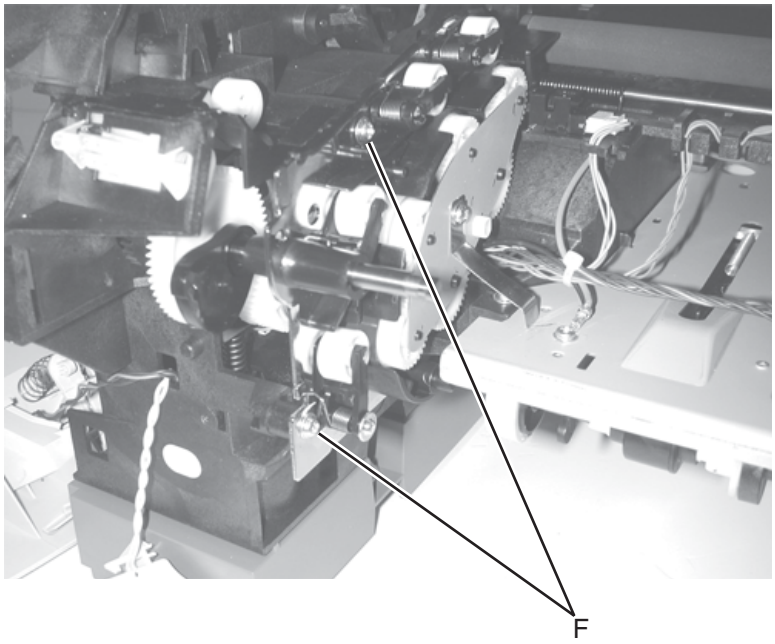
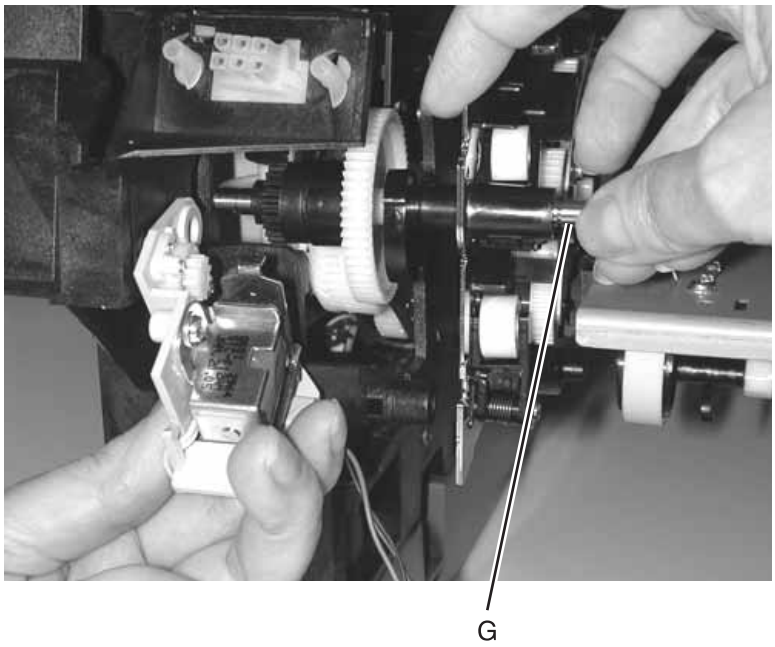
9. Loosen the paper alignment screws (F).



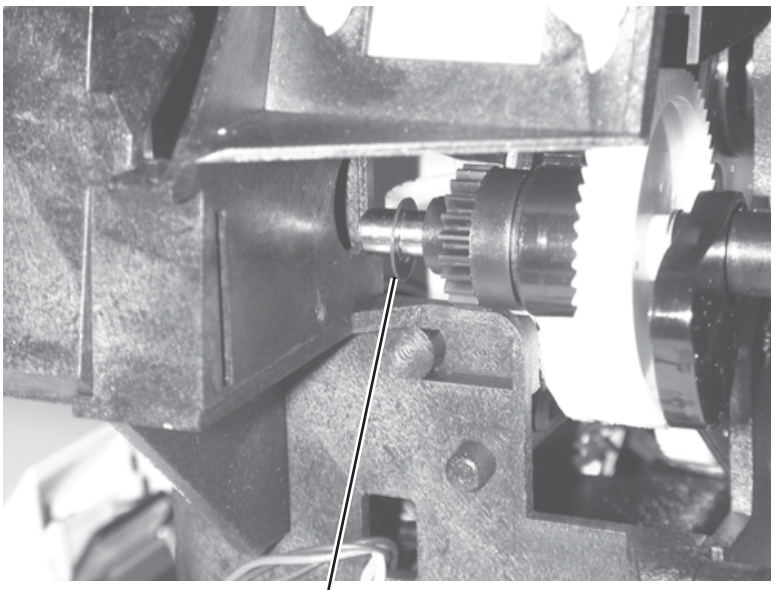
10. Remove the C-clip securing the MPF solenoid assembly on the shaft.
Note: This C-clip is very difficult to locate and remove.

11. Pull the shaft assembly (G) to the right until the left end of the shaft is clear of the frame, and slide the MPF solenoid assembly from the shaft.



Installation note:

Be careful not to lose the washer (H) that is between the MPF solenoid assembly and the C-clip. It belongs to the MPF arm assembly.



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Operator panel board removal

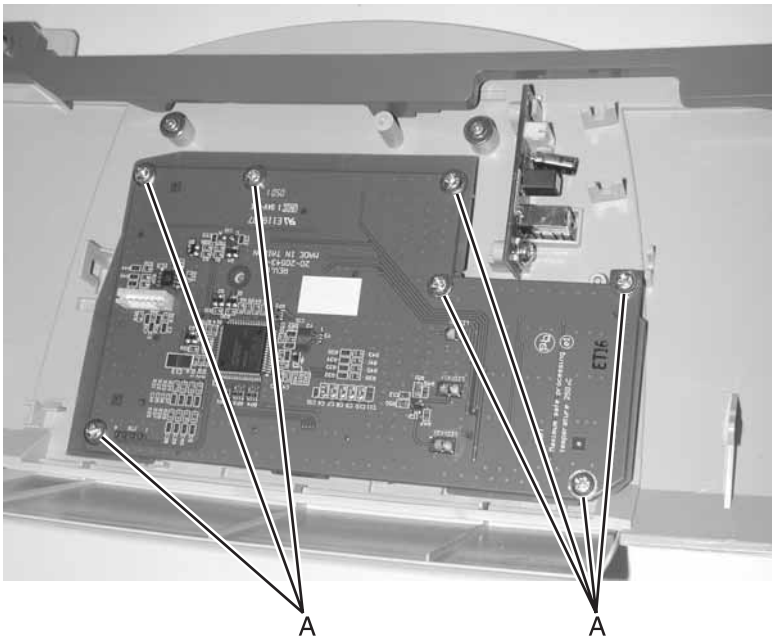
Warning: When replacing any one of the following components:

- Operator panel assembly (or upper front cover)
- System board assembly
- Interconnect card assembly

Only replace one component at a time. Replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable.

Warning: Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a printer, it can not be used in another printer. It must be returned to the manufacturer.

1. Remove the upper front cover. See **"Upper front cover removal" on page 4-11**.
2. Remove the seven screws (A), and remove the operator panel board.



Warning: When the operator panel is removed, some of the parts underneath are free to fall away from the upper front cover.

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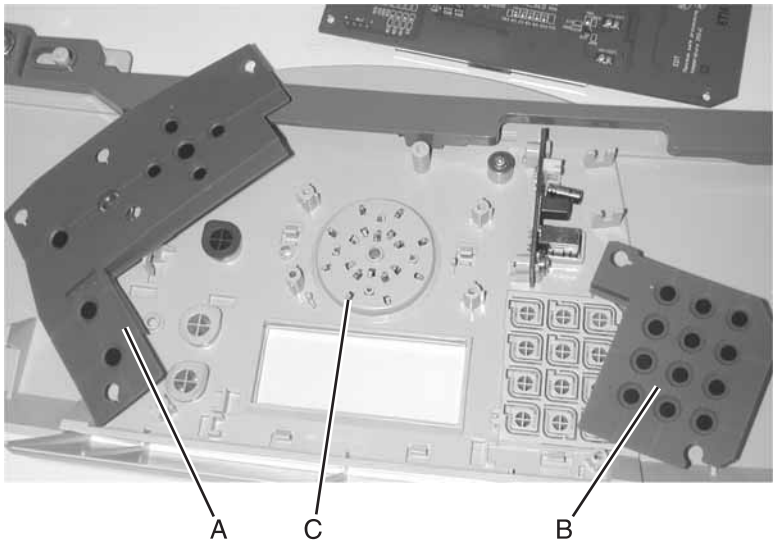
Operator panel buttons removal

The operator panel and navigation buttons are in a single kit.

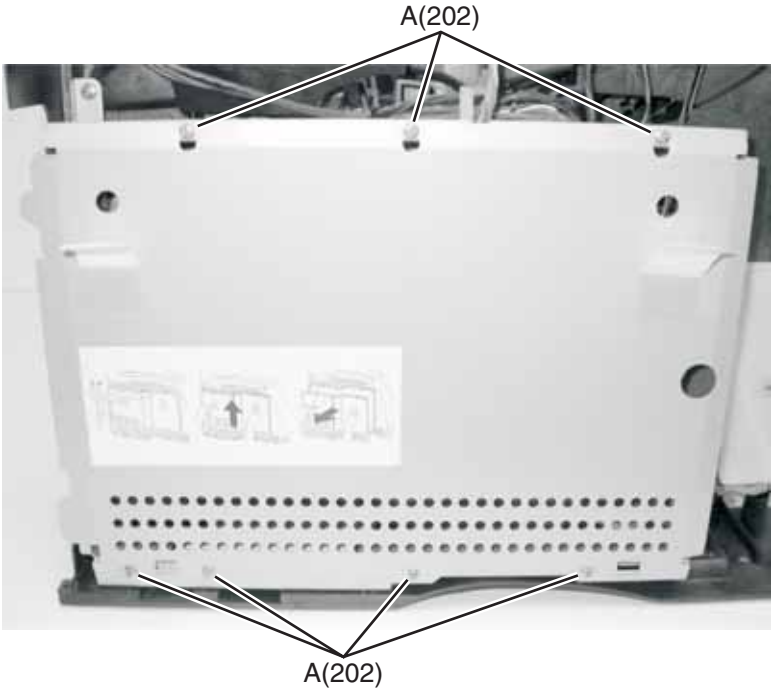
1. Remove the operator panel board. See **“Operator panel board removal” on page 4-66**.
2. Remove the functional rubber sheet (A) and the rubber dome sheet (B).



3. The navigation buttons and the select button can be removed by releasing the clips (C) on the back of the upper front cover.

Outer shield removal

1. Remove the left door. See **“Left door removal” on page 4-6**.
2. Loosen the outer shield mounting screws (A), and remove the shield by sliding up.



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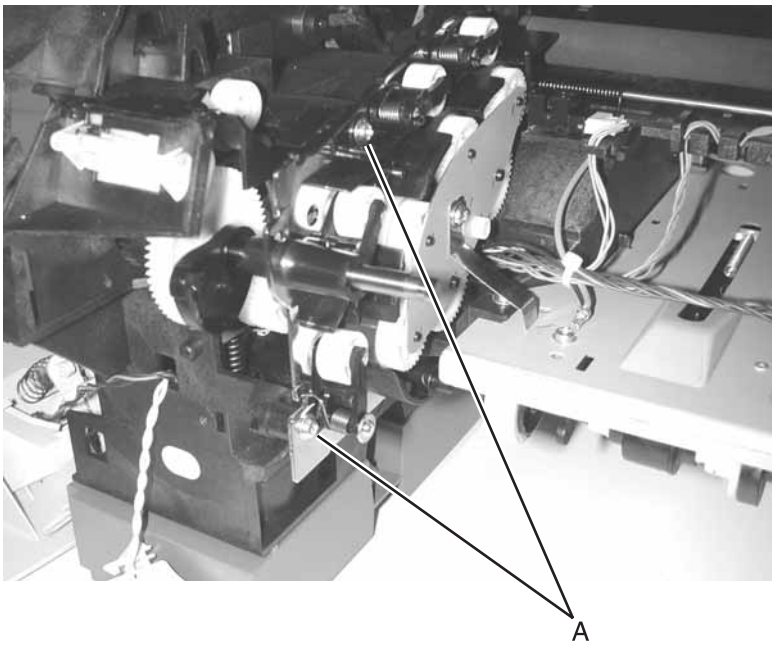
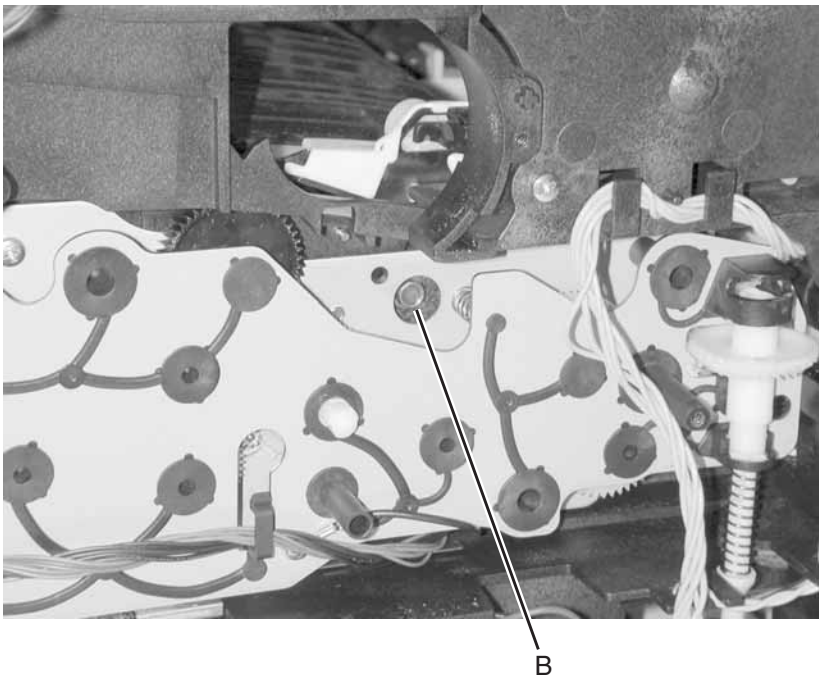
Paper alignment assembly removal

1. Remove the upper paper deflector assembly. See **“Upper paper deflector assembly removal” on page 4-79**.
2. Remove the inner paper deflector assembly. See **“Inner paper deflector assembly removal” on page 4-47**.
3. Release the input paper sensor from its mounting, and remove.
4. Remove the left door.
5. Remove the paper alignment assembly mounting screws (A).



6. Locate the paper alignment assembly reference adjustment screw (B) through the left frame, and remove the screw.



7. Remove the paper alignment assembly.

Note: Do the **“Paper alignment assembly adjustment” on page 4-3** when you reinstall the assembly.

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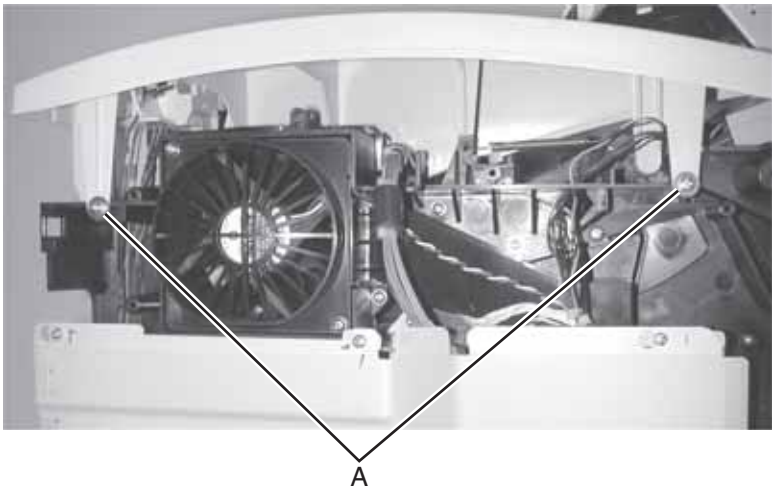
Paper bin full sensor flag removal

1. Remove the left door. See **“Left door removal” on page 4-6**.
2. Remove the redrive cap. See **“Redrive assembly removal” on page 4-74**.
3. Remove the fuser wiper cover assembly. See **“Fuser wiper cover assembly removal” on page 4-4**
4. Remove the mounting screws (A) from the left side.

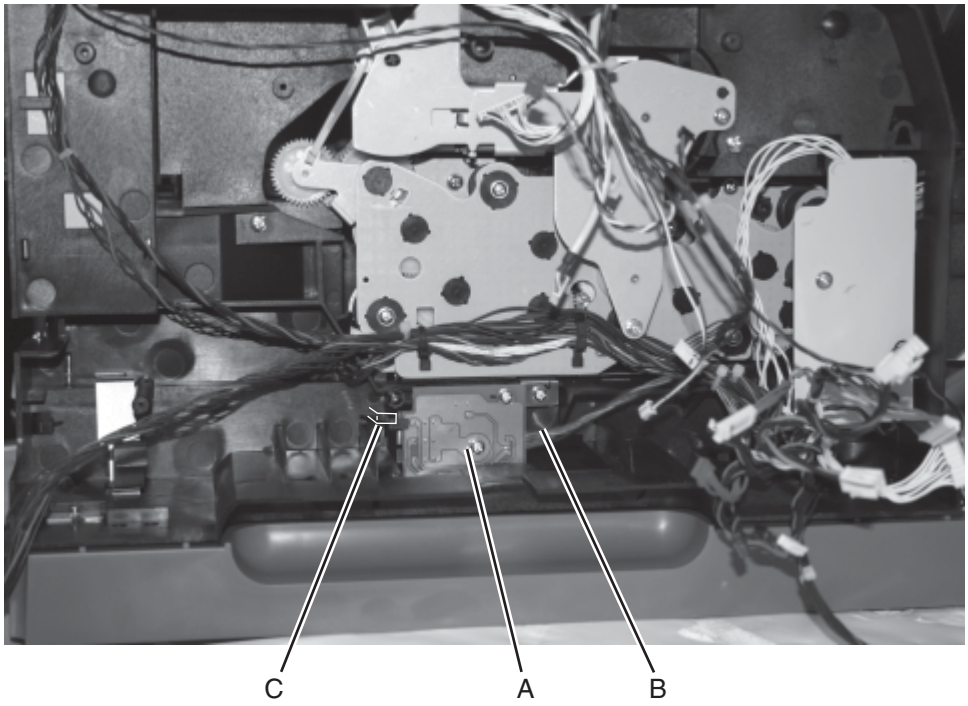


5. Lift the left corner of the laser cover assembly cover to access the flag.

6. Use your thumb to bend the paper full flag assembly slightly to unlatch it from the mounting bracket.

Paper size sensing board removal

1. Remove the system board and inner shield. See **“System board and inner shield removal” on page 4-76**.
2. Remove the paper size sensing board mounting screw (A).
3. Disconnect the paper size sensing board cable (B) from the board.
4. Remove the paper size sensing board from the latch (C).



5. Remove the paper size sensing board.

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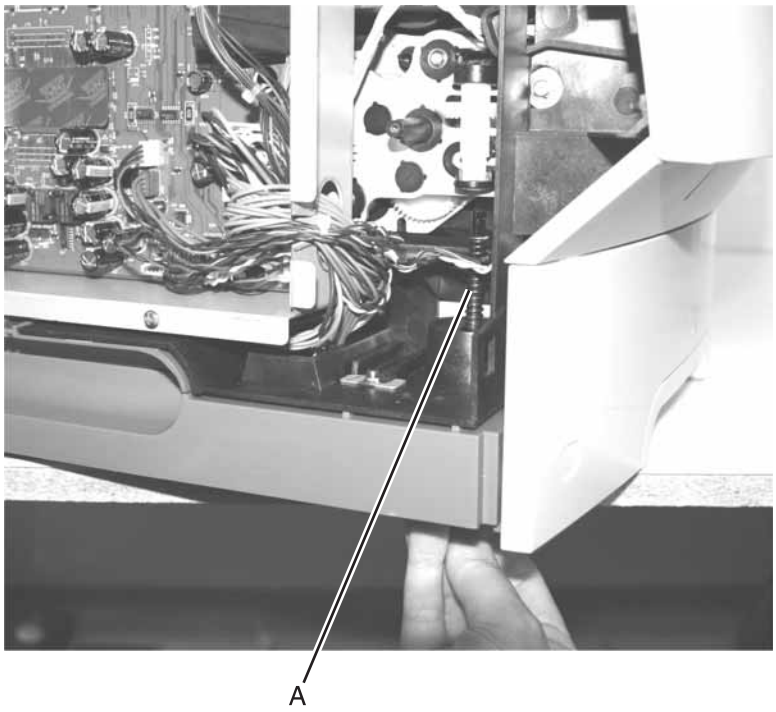
Power takeoff shaft and spring removal

Remove the power takeoff shaft and spring (A) through the bottom of the printer.

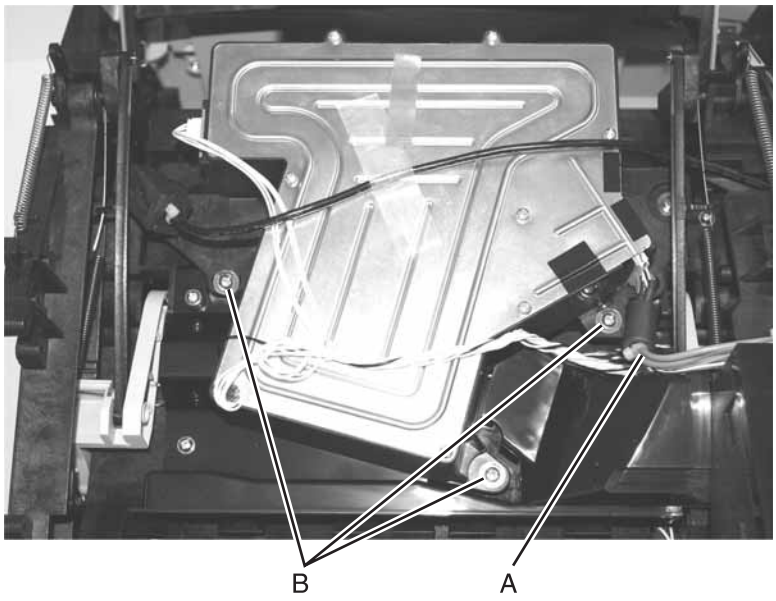


Printhead removal

CAUTION: The laser scanning unit is not a serviceable FRU. Replace the entire unit when service is required.

1. Remove the laser cover. See **"Laser cover removal" on page 4-19**.
2. Disconnect the printhead cable (A) from the printhead assembly.
3. Remove the three printhead mounting screws (B), and remove the printhead.

Note: Do the **"Printhead assembly adjustment" on page 4-2** whenever you remove or replace the printhead assembly or loosen the mounting screws.



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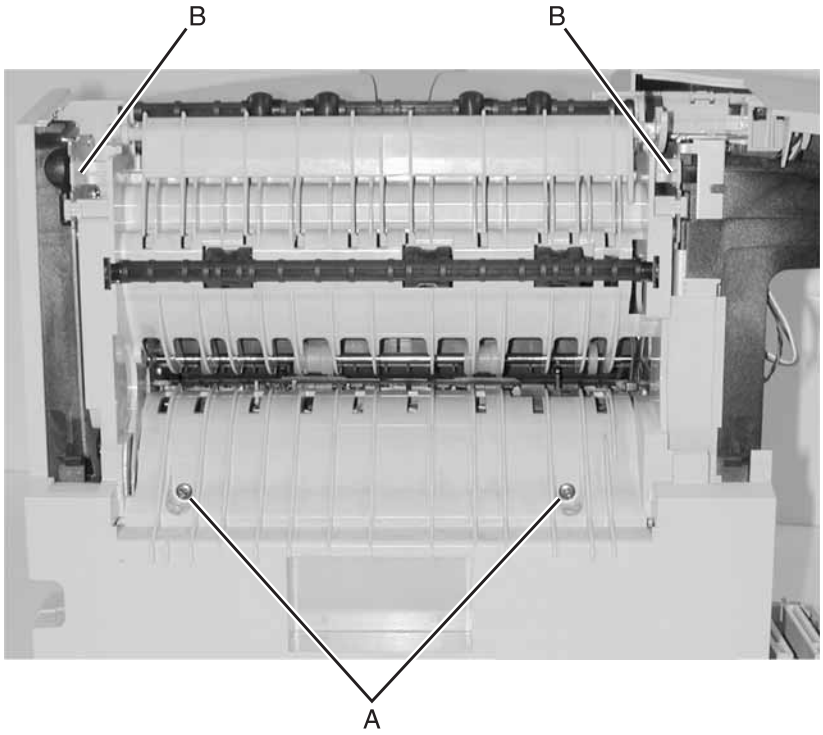
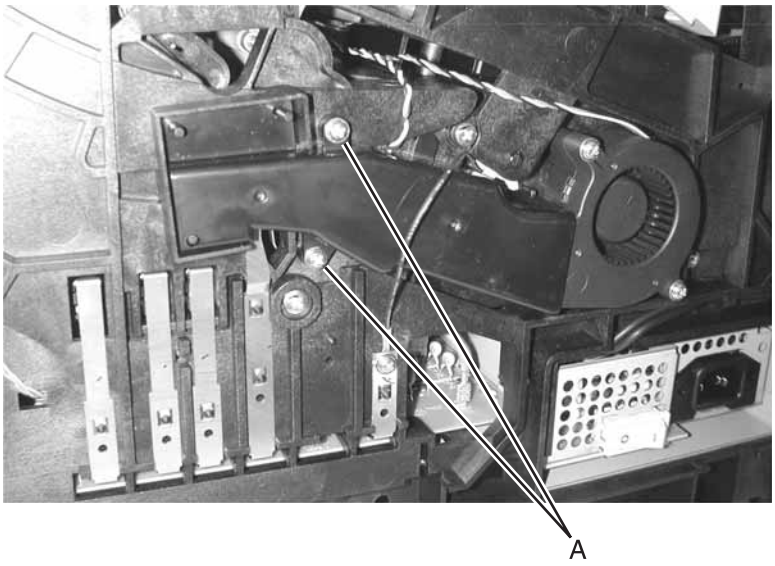
Redrive assembly removal

1. Remove the redrive door assembly.
2. Remove the redrive exit cover.
3. Remove the redrive assembly mounting screws (A).
4. Release the redrive assembly mounting latches (B), and remove the redrive assembly.



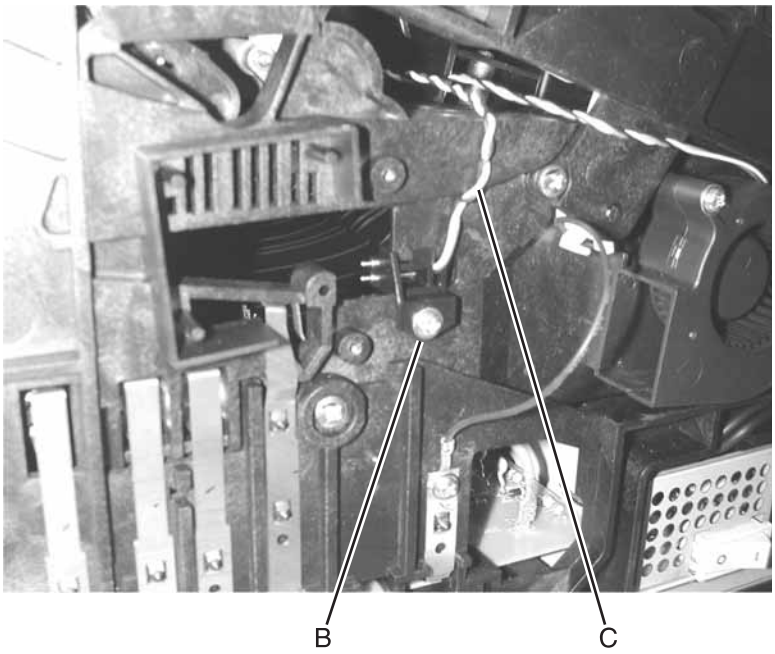
Signature button contact assembly removal

1. Remove the print cartridge.
2. Remove the left side door. See **“Left door removal” on page 4-6**.
3. Remove the right cover. See **“Right cover removal” on page 4-8**.
4. Remove outer system board shield. See **“Outer shield removal” on page 4-67**.
5. Disconnect signature button cable from connector J14 on the system board.
6. On models 200/210/400/410, remove the two screws (A) securing the blower duct.



7. Remove the signature button contact assembly mounting screw (B).
8. Remove the assembly signature button contact assembly.

   Note: Be sure to route the cable in the same location, as shown (C), when replacing the assembly.



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System board and inner shield removal

Warning: When replacing any one of the following components:

- Operator panel assembly (or upper front cover)
- System board assembly
- Interconnect card assembly

Only replace one component at a time. Replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable.

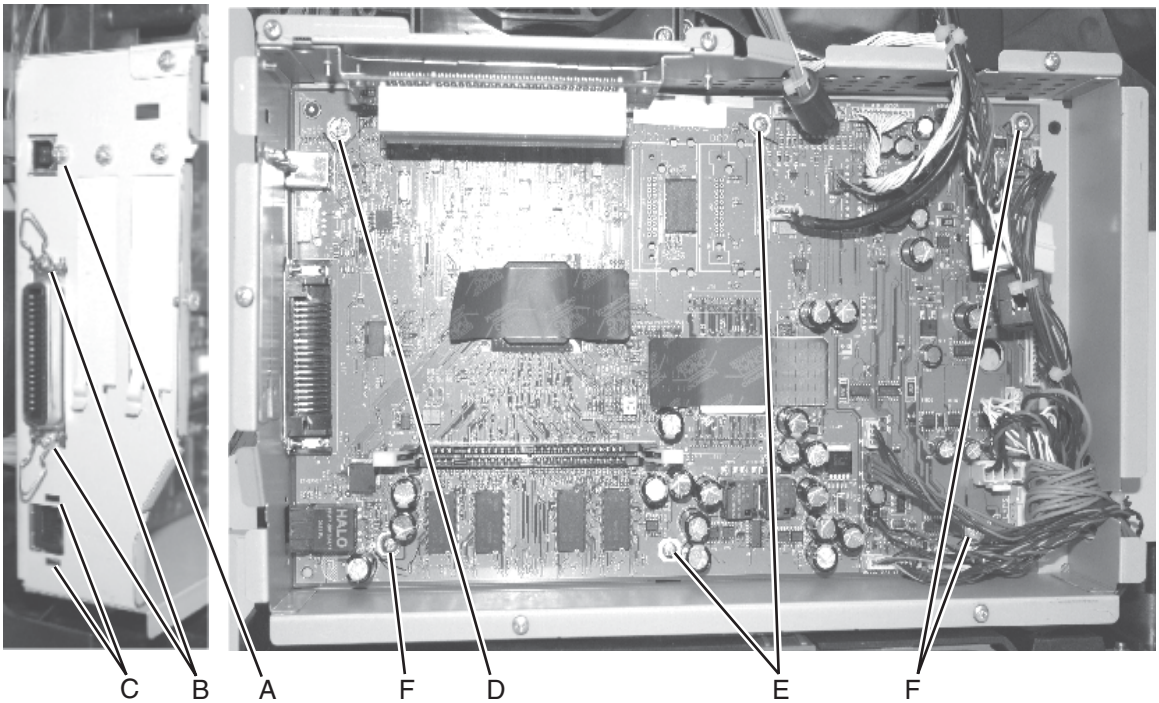
Warning: Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a printer, it can not be used in another printer. It must be returned to the manufacturer.

Warning: Observe all ESD precautions while handling ESD-sensitive parts. See **"Handling ESD-sensitive parts" on page 4-1**.

1. Remove the outer shield. See **"Outer shield removal" on page 4-67**.
2. Disconnect all cables from the system board.

   Note: Sometimes cables may be difficult to remove. Be careful not to damage the connectors.
3. Remove all features and options from the interconnect card.
4. Depending on your printer model, remove the two small USB port mounting screws (A), the two parallel port mounting screws (B), and the ethernet port mounting screw (C).

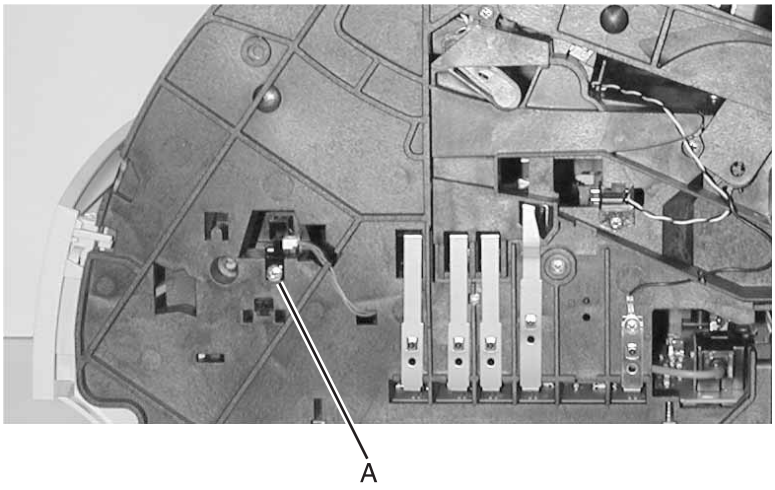
   Note: You may not have all these screws in every model.
5. Remove the system board mounting screws, including the screw in the upper left corner (C), the two small screws in the center top and bottom (D), and the three screws (E) (on the lower left and top and bottom right).



6. Remove the system board and inner shield.

Toner sensor removal

1. Remove the right side cover. See **“Right cover removal” on page 4-8**.
2. Remove the toner sensor mounting screw (A).
3. Disconnect the toner sensor cable, and remove the toner sensor.



Transfer roll assembly removal

Warning: Be careful when handling the transfer roll. Wrap a piece of plain white paper around the charge roll to prevent contamination or damage.

1. Open the upper front cover, and remove the print cartridge.
2. Unsnap the transfer roll assembly from the left pivot arm.
3. Lift the transfer roll assembly toward the left, and remove it from the printer.

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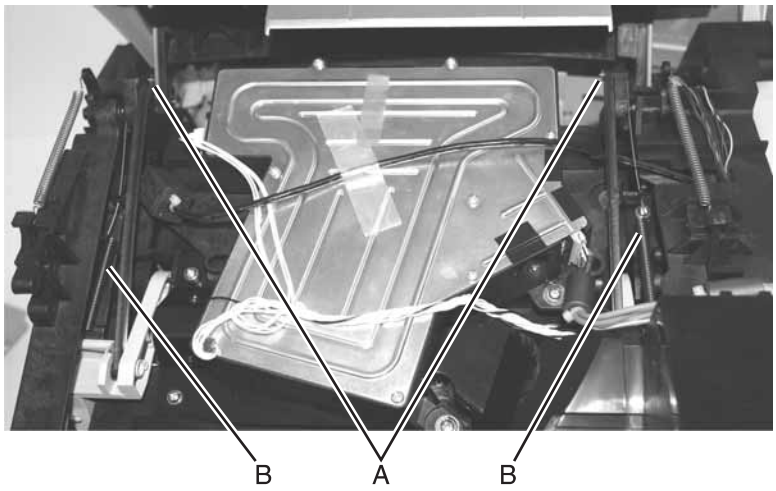
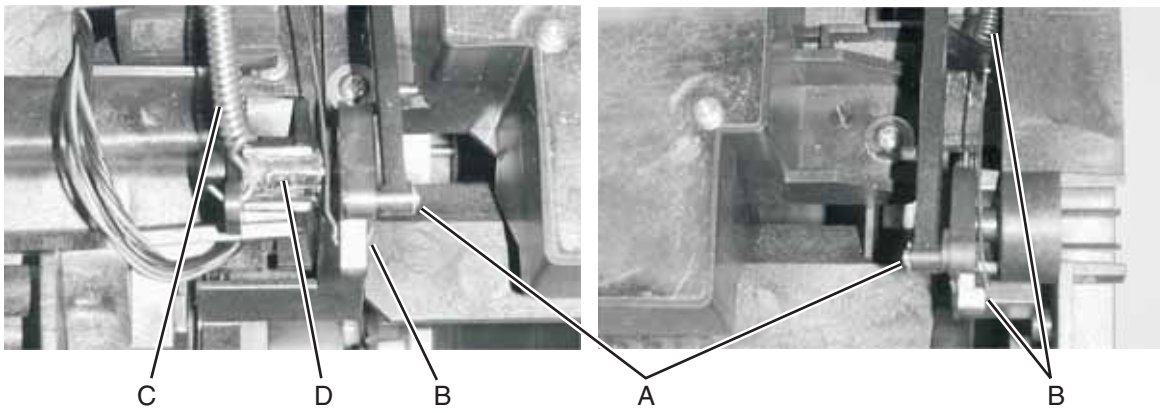
Upper front cover hinge assembly removal

1. Remove the upper front cover. See **“Upper front cover removal” on page 4-11**.
2. Remove the laser cover assembly. See **“Laser cover removal” on page 4-19**.
3. Remove the C-clips (A) from the upper front cover hinge assembly left and right hinge pins, and remove the pins. Note the pin orientation and the C-clip location on the inside of each hinge.



4. Detach the two springs (B) from the upper front cover hinges.
5. Detach spring (C) from the left side of the hinge assembly.
6. Remove the cover closed switch assembly.
7. Disconnect the operator panel cable from the operator panel board.
8. Raise the upper front cover hinge assembly to a position that lets you lift the left pivot arm from the mounting bracket (D).



9. Lift the left pivot arm from the bracket, and move the upper cover hinge assembly toward the left to clear the right upper cover pivot arm from the mounting bracket.
10. Remove the upper front cover hinge assembly.

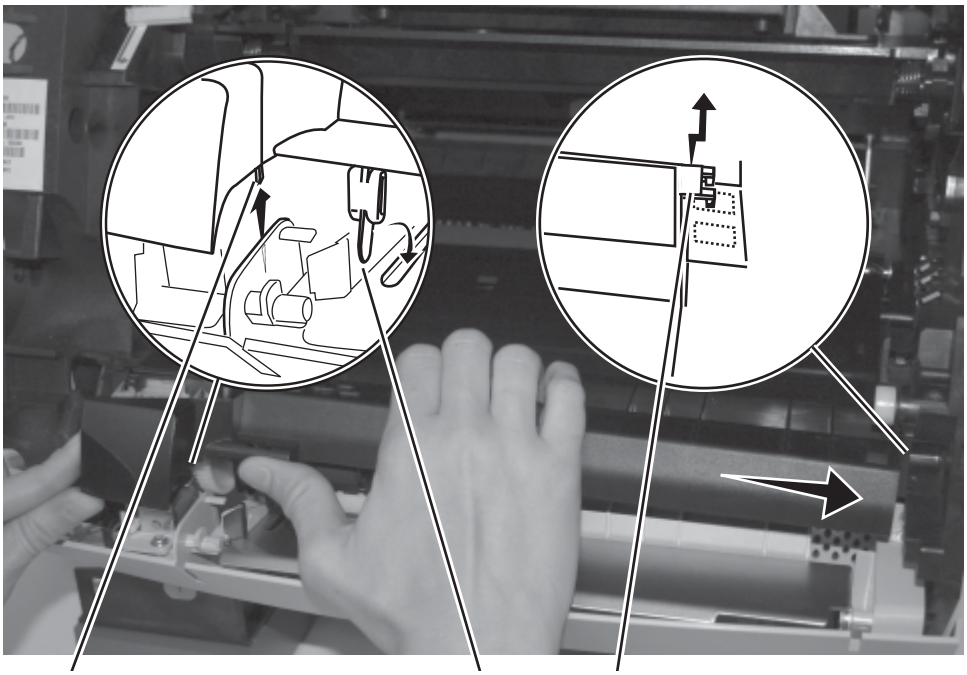
Upper paper deflector assembly removal

1. Either lift the ESD cover out of the way or remove it. See **"ESD cover removal" on page 4-25**.

   Note: The tabs holding the ESD cover are easily stressed or broken.

2. Lift the left side to release the small tab (A) on the left and the MPF flag (B) and slide the upper paper deflector assembly to the right to unlatch the hooks (C) on the right.

   Note: Be careful not to put too much stress on the small tab (A) on the right.



3. Lift to remove the upper paper deflector assembly.

Installation note: Make sure the MPF flag (B) is in place.

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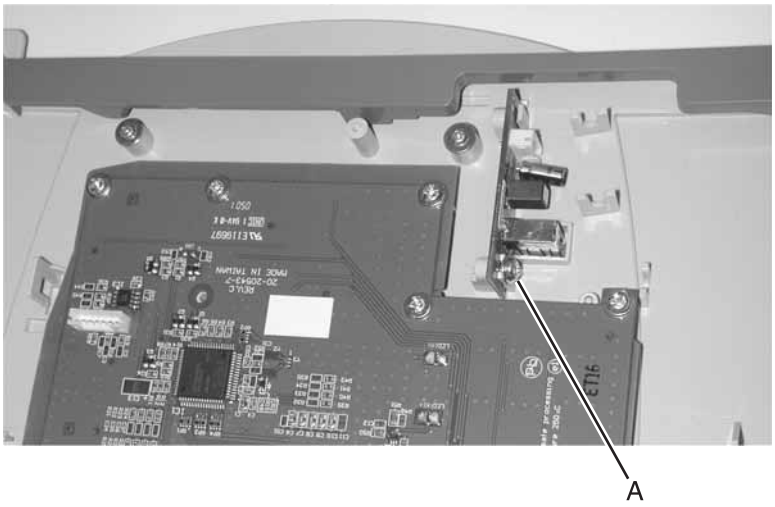
USB board assembly removal

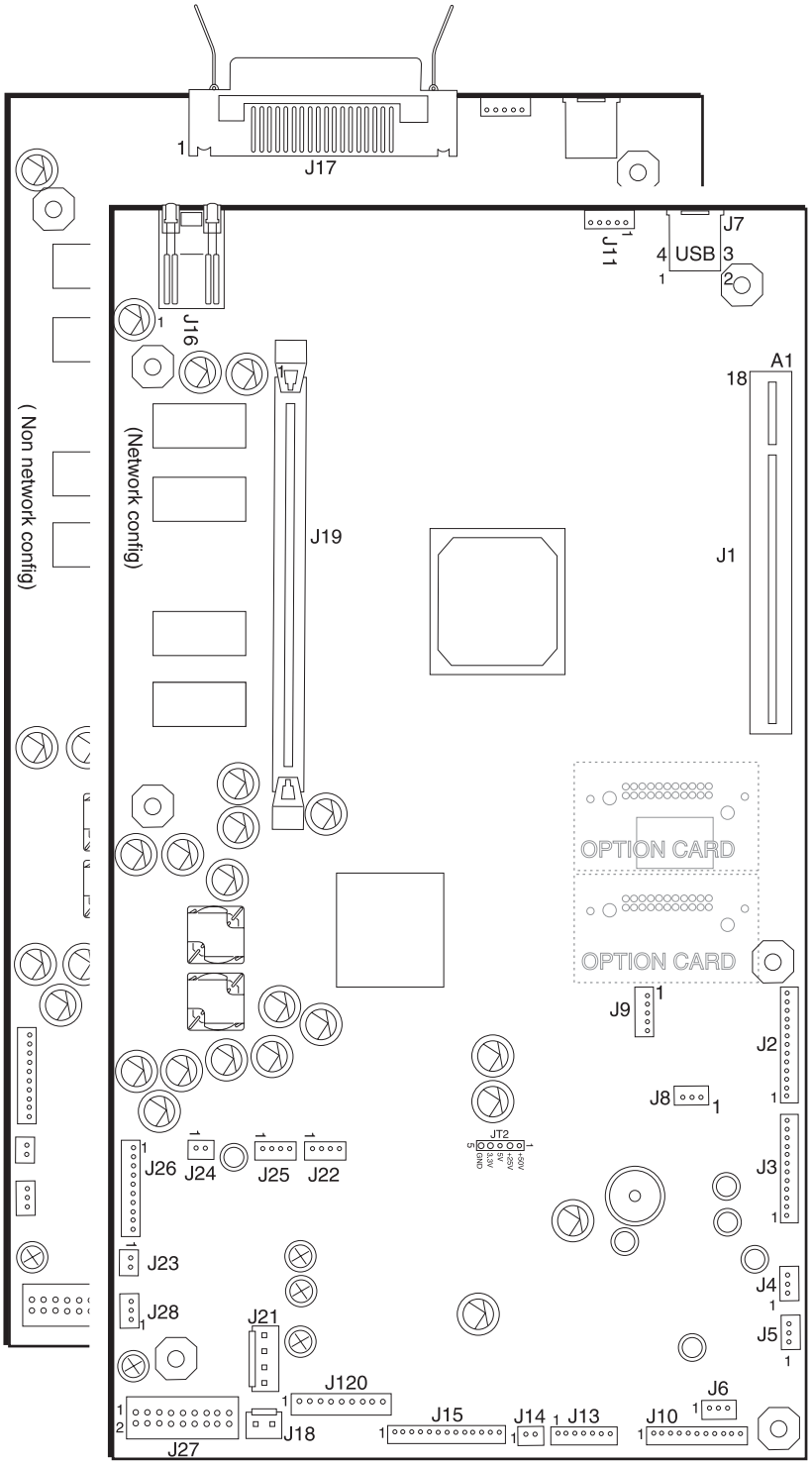
1. Remove the upper front cover.
2. Disconnect the USB cable from the USB board assembly.
3. Remove the screw (A) securing the USB board assembly.



5. Connector locations and connections

Connections

System board



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System board (see “System board” on page 5-1)

Connector	Pin no.	Signal
J1 Interconnect card		
J2 Printhead (laser cable)	1	Video Level 2+
	2	Video3*
	3	Ground
	4	+5PHead
	5	LPOW
	6	LADJ*
	7	LPOW FB
	8	LENA*
J3 Printhead (HSYNC)/mirror motor	1	Ground
	2	HSYNC CN*
	3	HSYNC ID
	4	+5 V dc
	5	
	6	
	7	
	8	
	9	
	10	
	11	
	12	
J4 Main fan	1	FANSTALL
	2	Ground
	3	MAINFAN
J5 Cartridge fan	1	CARTFANSTAIL
	2	Ground
	3	CARTFAN
J6 Hopper full (output bin sensor)	1	HOP FULL*
	2	Ground
	3	HOP LED
J7 USB port	1	
	2	
	3	
	4	
	5	
	6	
	7	

System board (see "System board" on page 5-1)

Connector	Pin no.	Signal
J8 Cover closed switch	1	Cov Closed
	2	Ground
	3	+5V dc
J10 Fuser DC	1	NARMEDIA*
	2	Ground
	3	THERM
	4	Ground
	5	THUMP
	6	+5V dc
	7	THUMPRET
	8	EXIT SNS*
	9	+3.3 V dc
	10	I2C CLK L5
	11	I2C DAT L5
J13 Operator panel	1	I2C DAT
	2	+5 V dc
	3	I2C CLK
	4	Ground
	5	PANEL INT
	6	+3.3 V dc
	7	Ground
J14 Signature button	1	SM Cart
	2	Ground
J15 HVPS	1	ATSERVO
	2	TXENABLE
	3	XFR
	4	24 V dc switched
	5	CHARGE
	6	Ground
	7	DEV
	8	Ground
input sensor	9	INPUTSENSX
	10	+5 V dc switched
Cartridge toner wheel sensor	11	+5 V dc
	12	TONER WHEELX
	13	Ground

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System board (see “System board” on page 5-1)

Connector	Pin no.	Signal
J16 Ethernet port	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	11	
	12	
	13	
J17 Parallel port		
J18 Front/bottom options	1	Ground
	2	+24 V dc OTC OPT
J20 Transport motor	1	BLDC_HALL 0
	2	BLDC_HALL 1
	3	BLDC_HALL 2
	4	BLDC FG
	5	Ground
	6	+5 V dc switched
	7	BLDC WIND
	8	BLDC WIND 1
	9	BLDC WIND 2
J21 Autoconnect—top	1	Ground
	2	+5 V dc fused
	3	Ground
	4	+24 V dc PTC OPT
J23 MPF pick solenoid	1	MPFPick*
	2	+24V dc
J24 Autocomp motor	1	+24 V dc
	2	AUTOCOMP*
J25 Autoconnect—bottom/front	1	Ground
	2	+24VPTCOPT

System board (see "System board" on page 5-1)

Connector	Pin no.	Signal
J26 Paper size sensor/autocomp motor	1	PSIZE2
	2	Ground
	3	PSIZE1
	4	PSIZE3
	5	Ground
	6	TRAY1 POUT
	7	TRAY1 PLOW*
	8	+3.3V dc
	9	ENCODER
	10	+5V dc
J27 LVPS	1	+5 V dc
	2	+5 V dc
	3	+5 V dc
	4	Ground
	5	Ground
	6	Ground
	7	Ground
	8	Ground
	9	Ground
	10	Ground
	11	+24 V dc RAW
	12	Ground
	13	+24 V dc RAW
	14	+24 V dc RAW
	15	ZEROXING R+
	16	+24 V dc RAW
	17	HEAT
	18	HEAT
	19	Ground
	20	L FAN DRV*
J28 MPF paper out	1	MPF POUT
	2	Ground
	3	MPF LED
J29 Top options	1	RXD1R
	2	Ground
	3	TXD1BR
	4	Ground

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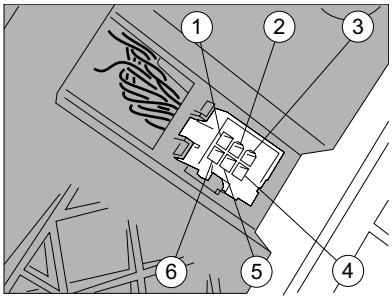
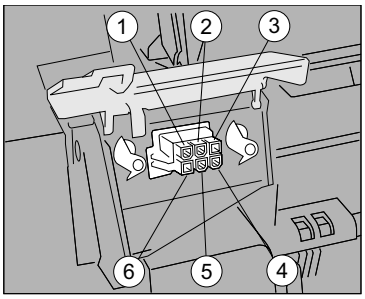
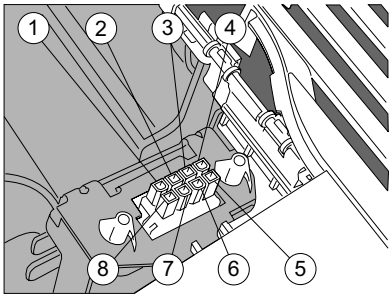
System board (see “System board” on page 5-1)

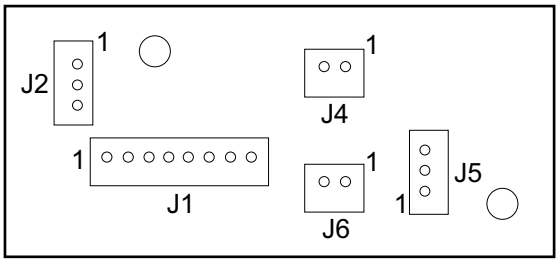
Connector	Pin no.	Signal
J30 USB host–back	1	
	2	
	3	
	4	
	5	
	6	
	7	
USB host—front connection	1	+5 V USBICN
	2	USB DI–
	3	USB DI+
	4	Ground
	5	Ground
Printhead fan	1	+24V dc
	2	PH FAN*

Autoconnect

Connector	Pin no.	Signal (static)
Bottom autoconnect 	1	+24 V dc
	2	0 V dc
	3	+5 V dc
	4	0 V dc
	5	0 V dc
	6	0 V dc
Front autoconnect 	1	0 V dc
	2	0 V dc
	3	0 V dc
	4	+5 V dc
	5	0 V dc
	6	+24 V dc

Connector	Pin no.	Signal (static)
Top autoconnect 	1	0 V dc
	2	+5 V dc
	3	0 V dc
	4	0 V dc
	5	0 V dc
	6	+5 V dc
	7	0 V dc
	8	+24 V dc

Fuser Board

Fuser Board (not a FRU)	Connectors
	J1—System board
	J2—Narrow media sensor
	J3—N/A
	J4—Solenoid
	J5—Exit sensor
	J6—Thermistor

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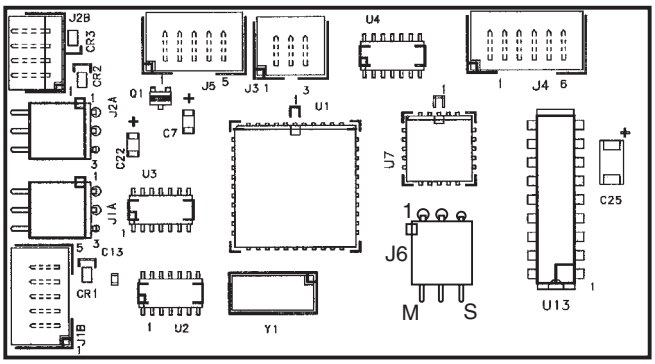
High-capacity output stacker board

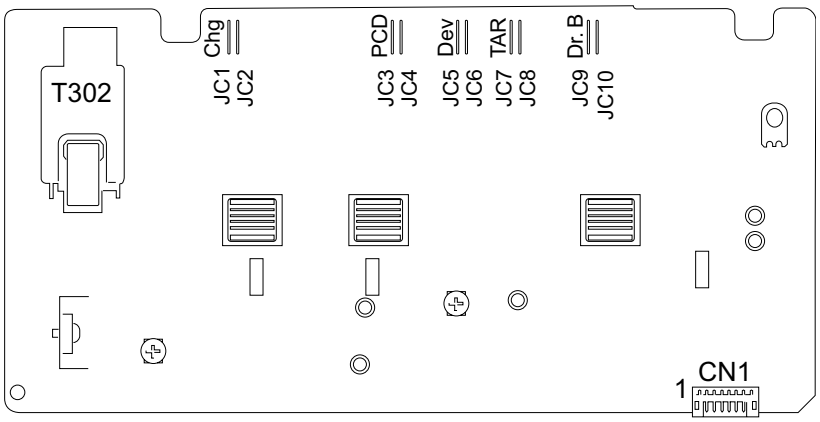


Connector	Pin no.	Signal
J1A Autoconnect	1	+24 V dc
	2	Ground
	3	+5 V dc
J1B	1	Prtxdin
	2	Ground
	3	prtrxd
	4	Ground
	5	N/C
J2A Autoconnect	1	+24 V dc
	2	Ground
	3	+5 V dc
J2B	1	prtxdout
	2	Ground
	3	prtrxd
	4	Ground
J3 Pass thru sensor	1	Ground
	2	Paper Present
	3	RVsnsr
J4 DC motor	1	mtrout1
	2	mtrout2
	3	Ground
	4	Ground
	5	tach +
	6	+5 V dc
J5 Bin full/near full dual sensor	1	Ground
	2	Ground
	3	binful
	4	binful
	5	RVsnsr
J6 Jumper connector	1	Upper unit
	2	Upper/Lower Unit
	3	Lower Unit

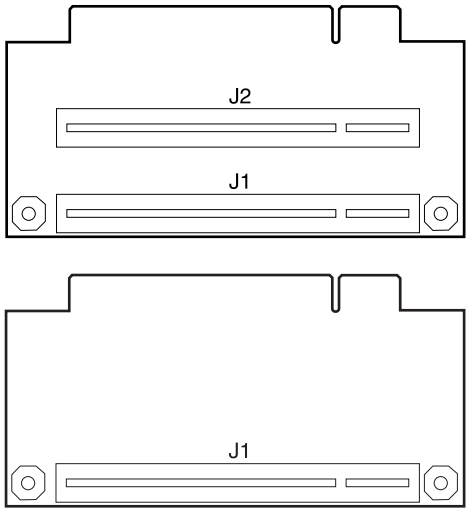
J6 connector jumper locations

High-capacity stacker board	Pin 1	Pin 2	Pin 3
Upper unit board	X	X	Not used
Lower unit board	Not used	X	X

High voltage power supply

Connector	CN no.	Signal
CN1 System board 	1	Developer PWM
	2	+24 V dc Return
	3	Charge PWM
	4	+24 V dc IN
	5	TX PWM
	6	TX Enable
	7	TX CUR PWM
	8	SVRO OUT

Interconnect card

Connector	Connector	Pin no.	Signal
	J1	1	
	J2	1	

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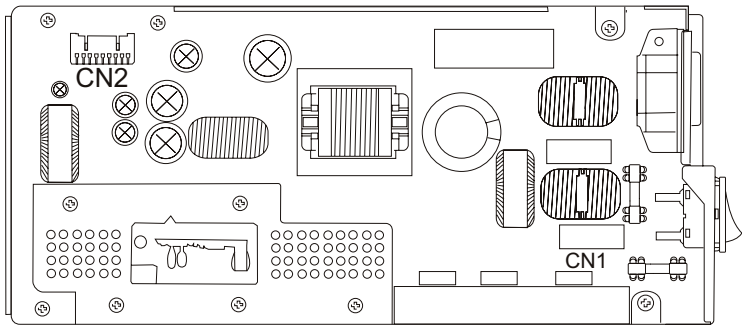
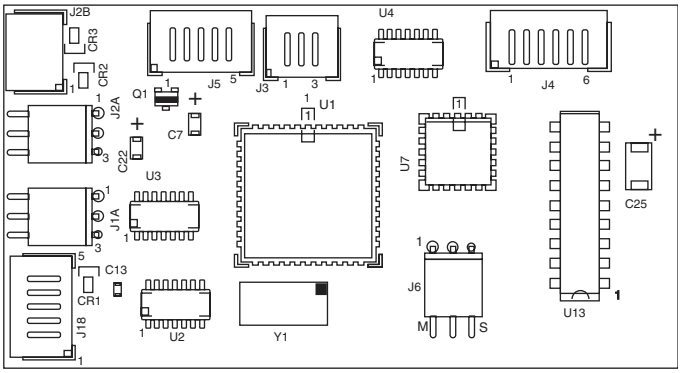
Low voltage power supply

Connector	CN pin no.	Signal
CN1 Fuser lamp AC 	1	AC fuser lamp
	2	Not used
	3	AC fuser lamp
CN2 DC output	1	+5 V dc
	2	+5 V dc
	3	Ground
	4	Ground
	5	Ground
	6	Ground
	7	+24 V dc
	8	+24 V dc
	9	Heat on
	10	+5 V dc
	11	+5 V dc
	12	Ground
	13	Ground
	14	Ground
	15	Ground
	16	+24 V dc
	17	ZC Out*
	18	+42 V dc

Output expander control board



Connector	Pin no.	Signal
J1A Autoconnect	1	+24 V dc
	2	Ground
	3	+5 V dc
J1B	1	Prtxdin
	2	Ground
	3	prtrxd
	4	Ground
	5	N/C
J2A Autoconnect	1	+24 V dc
	2	Ground
	3	+5 V dc
J2B	1	prtxdout
	2	Ground
	3	prtrxd
	4	Ground
J3 Pass thru sensor	1	Ground
	2	Paper Present
	3	RVsnsr
J4 DC motor	1	mtrout1
	2	mtrout2
	3	Ground
	4	Ground
	5	tach +
	6	+5 V dc
J5 Bin full/near full dual sensor	1	Ground
	2	Ground
	3	binful
	4	binful
	5	RVsnsr
J6 Jumper connector	1	Not used
	2	Not used
	3	Not used

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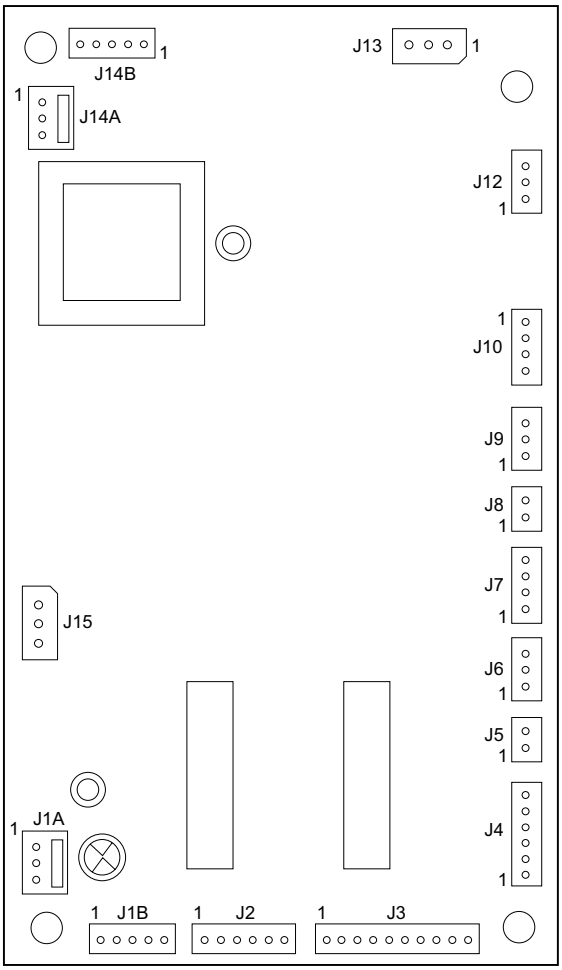
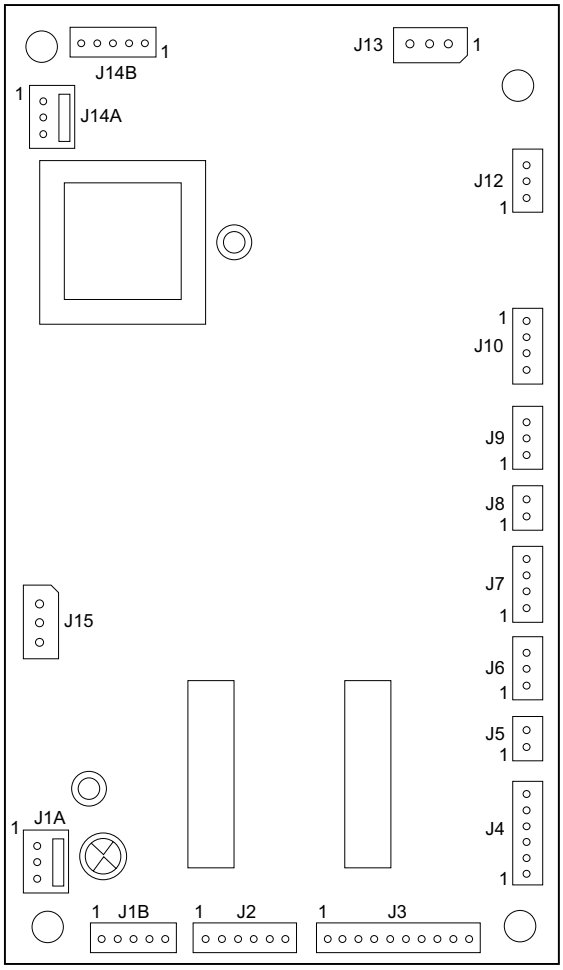
StapleSmart finisher

	Connector	Pin no.	Signal
Staple card assembly 	J1A Bottom autoconnect	1	+24 V dc
		2	Ground
		3	+5 V in
	J1B Bottom autoconnect	1	rtxdin
		2	Ground
		3	prtrxd
		4	Ground
		5	Ground
	J2 Feed motor	1	fdmtr1
		2	fdmtr2
		3	Ground
		4	Ground
		5	tachft
		6	5Vptt
	J3 Stepper motor	1	stpmtr-
		2	stpmtr-
		3	stpmtr+
		4	stpmtr+
		5	crtprsnt-
		6	stplow+
		7	‘stpphomo-
		8	Ground
		9	5Vstpl
		10	stprimed-
	J4 Accessory connector	1	+24 V dc
		2	accmtr-
		3	Ground
		4	Ground
		5	tacha+
		6	5Vptt
	J5 Solenoid	1	Sol1-
		2	+24 V dc
	J6 Stapler	1	Ground
		2	pfrinstp+
		3	5Vsnsr2

	Connector	Pin no.	Signal
Staple card assembly (continued)  	J7 Right side sensor board	1	Ground
		2	Bottom
		3	Top
		4	Ground
	J8 Solenoid	1	Sol2-
		2	+24 V dc
	J9 Bin empty sensor	1	Ground
		2	bnempty-
		3	5Vsnsr2
	J10 Left side sensor board	1	Ground
		2	full+
		3	NRFull+
		4	Ground
	J12 Pass thru sensor	1	Ground
		2	psthruint
		3	5Vptt
	J13 Cover open switch	1	+5V dc
		2	Ground
		3	cvropin-
	J14A	1	+24V dc
		2	Ground
		3	5V in
	J14B	1	prtxdout
		2	Ground
		3	prtrxd
		4	Ground
		5	Ground
	J15 Stapler door open	1	Dooropin-
		2	Ground
		3	5Vswitch

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6. Preventive maintenance

This chapter describes procedures for printer preventive maintenance. Following these recommendations can help prevent problems and maintain optimum performance.

Safety inspection guide

The purpose of this inspection guide is to aid you in identifying unsafe conditions.

If any unsafe conditions exist, find out how serious the hazard could be and if you can continue before you correct the hazard.

Check the following items:

- Damaged, missing, or altered parts, especially in the area of the on/off switch and the power supply.
- Damaged, missing, or altered covers, especially in the area of the top cover and the power supply cover.
- Possible safety exposure from any non-Lexmark attachments.

Lubrication specifications

No requirements for this printer.

Scheduled maintenance

Maintenance kit

The operator panel displays the message `80 Scheduled Maintenance` at each 300K page count interval. It is necessary to replace the fuser assembly, transfer roller, charge roll, and pick tires at this interval to maintain the print quality and reliability of the printer. The parts are available as a maintenance kit with the following part numbers:

Maintenance kits

Description	Part number
115 V Maintenance kit	56P4240
220 V Maintenance kit	56P4241
100 V Maintenance kit	56P4242

After replacing the kit, the maintenance count must be reset to zero to clear the “80 Scheduled Maintenance” message. See **“Maintenance page count (Maint Cnt Value)” on page 3-25**.

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7. Parts catalog

How to use this parts catalog

The following legend is used in the parts catalog:

Asm-Index	Part number	Units/mach - OR - Units/option	Units/ kit or pkg	Description

- **Asm-index**: identifies the assembly and the item in the diagram. For example, 3-1 indicates Assembly 3 and the item number 1.
- **Part number**: identifies the unique number that identifies this FRU.
- **Units/mach**: refers to the number of units actually used in the base machine or product.
- **Units/option:** refers to the number of units used in the option and does not include the base machine.
- **Units/kit or pkg**: refers to the number of units packaged together and identified by the part number.
- **NS**: (Not shown) in the Asm-Index column indicates that the part is procurable but is not pictured in the illustration.
- **PP**: (Parts Packet) in the parts description column indicates the part is contained in a parts packet.

Model information used in the parts catalog.

Model name	Configuration	Machine type	Parts catalog
Lexmark T640	Non-network	4061-000	000
Lexmark T640n	Network	4061-010	010
Lexmark T642	Non-network	4061-200	200
Lexmark T642n	Network	4061-210	210
Lexmark T644	Non-network	4061-400	400
Lexmark T644n	Network	4060-410	410

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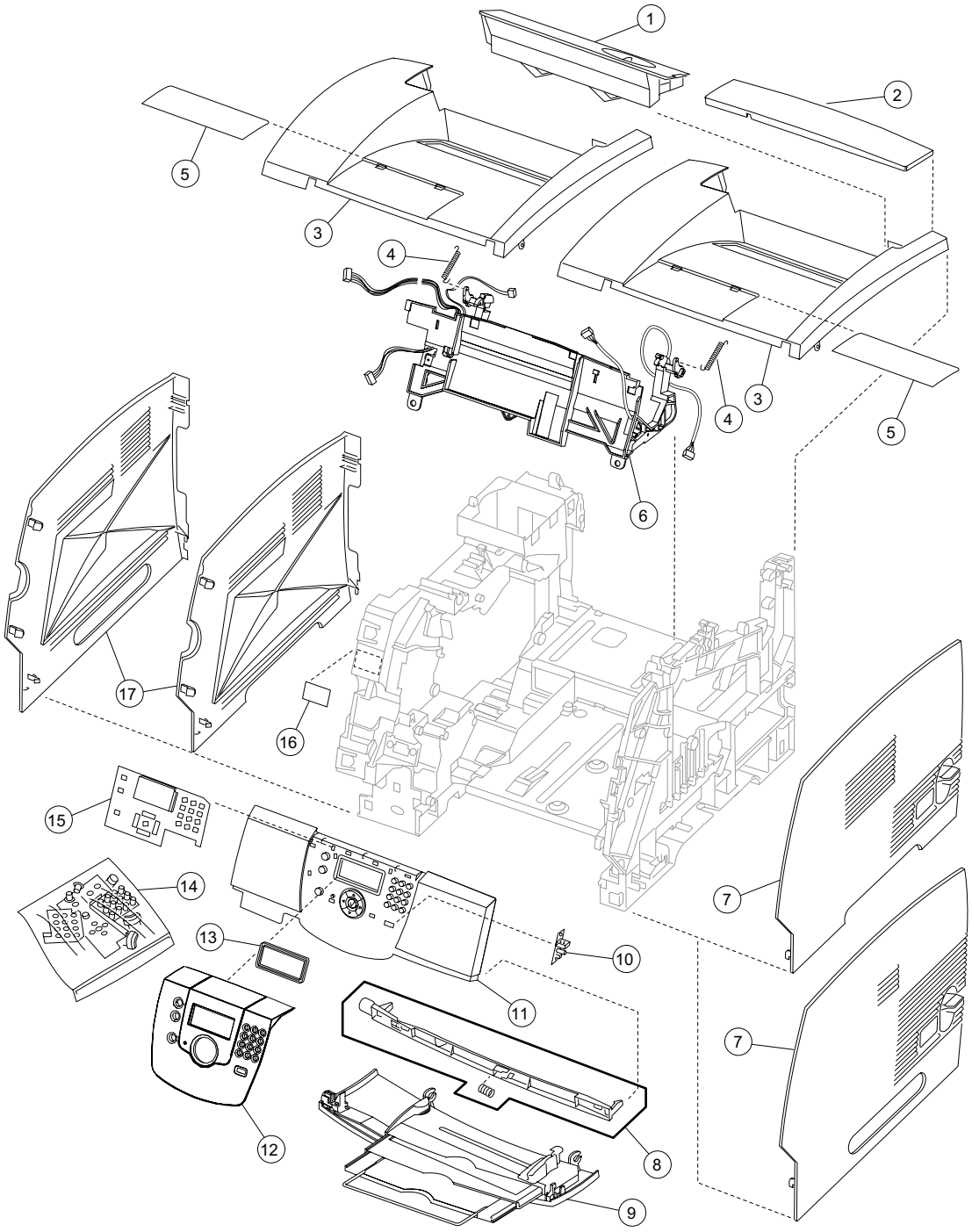
Assembly 1: Covers



Assembly 1: Covers

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1—1	40X0001	1	1	Fuser wiper cover assembly
2	40X0002	1	1	Redrive cap cover assembly
3	40X0003	1	1	Laser cover assembly—250-sheet output, 000/010
3	40X0004	1	1	Laser cover assembly—500-sheet output, 200/210/400/410
4	40X0050	2	1	Counterbalance spring
5	40X0005	1	1	Paper support
6	40X0006	1	1	Upper front cover hinge assembly, includes: • USB cable (1) • Cover open switch and cable (1) • Left cable cover (1) • Right cable cover (1) • Left hinge spring (1) • Right hinge spring (1)
7	40X0007	1	1	Right side cover—250-sheet output, 000/010
7	40X0008	1	1	Right side cover—500-sheet output, 200/210/400/410
8	40X0011	1	1	Upper cover latch/spring
9	40X0017	1	1	Lower front cover assembly
10	40X0151	1	1	USB board assembly
11	40X0010	1	1	Upper front cover assembly with Lexmark logo, including • Operator panel board (1) • Stop button (1) • Menu button (1) • Back button (1) • LED cap (1) • Navigation buttons (4) • Number pad buttons (1) • Navigation select button (1) • Number pad rubber dome sheet (1) • USB board (1) • Functional rubber sheet (1)
12	40X0014	1	1	Operator panel outer bezel with Lexmark logo, T640
12	40X0233	1	1	Operator panel outer bezel with Lexmark logo T642
12	40X0234	1	1	Operator panel outer bezel with Lexmark logo T644
13	40X0013	1	1	Clear LCD bezel
14	40X0235	1	1	Kit, upper front panel button, including: • Stop button (1) • Menu button (1) • Back button (1) • LED cap (1) • Navigation buttons (4) • Number pad buttons (1) • Navigation select button (1) • Number pad rubber dome sheet (1) • Functional rubber sheet (1)
15	40X0195	1	1	Operator panel board assembly
16	40X0009	1	1	TLI/ID/serial number label—blank
17	40X0020	1	1	Left side door cover, 250-sheet—1-slot, 000/010
17	40X0023	1	1	Left side door cover, 500-sheet—2-slot, 200/210/400/410
NS		5	10	Parts packet (cable ties) (PP 40X0174)

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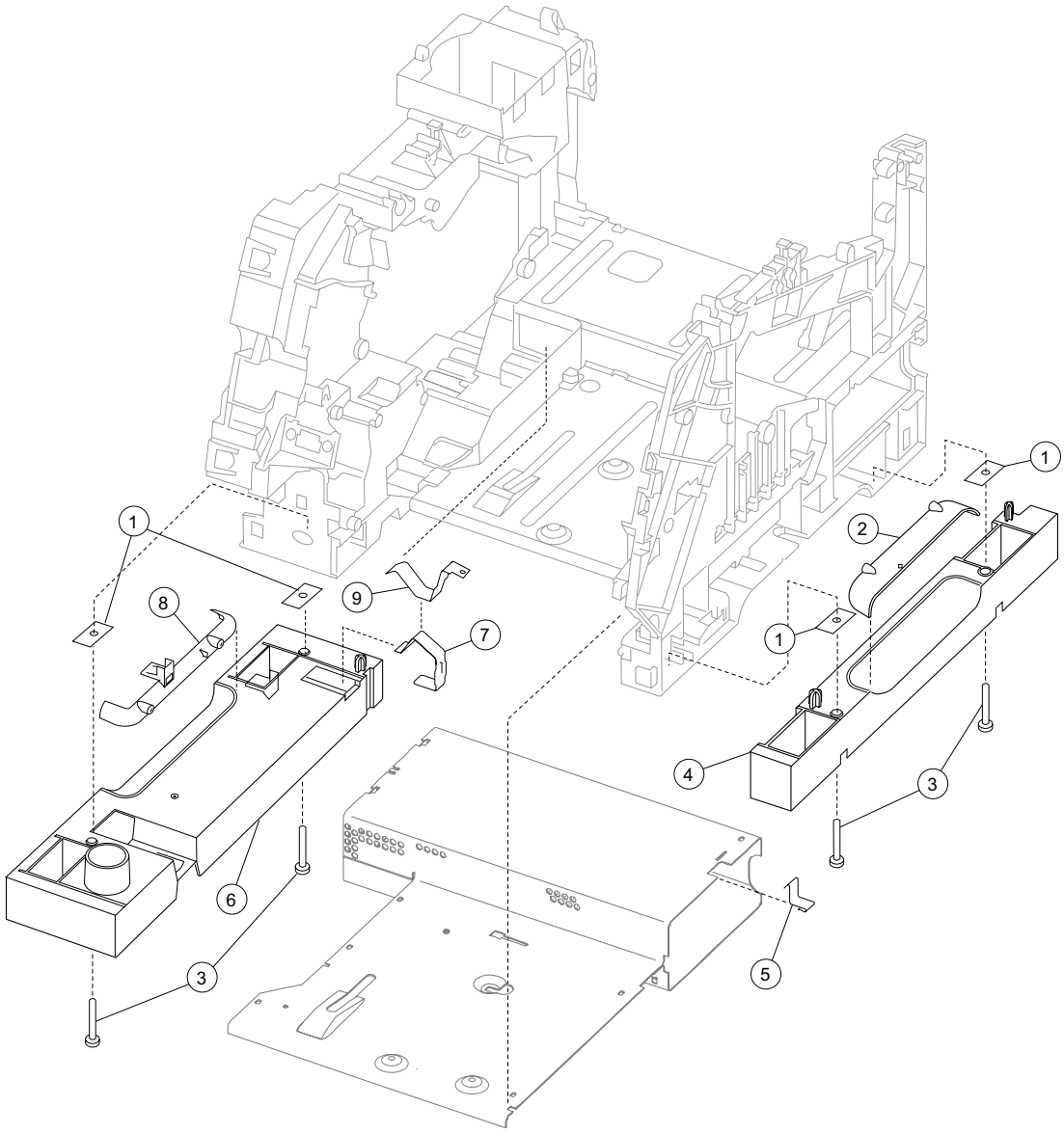
Assembly 2: Frame 1



Assembly 2: Frame 1

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X0065	4	1	Frame extension, nut plate, 200/210/400/410
2	40X0225	1	1	Right side hand holder
3		4	4	Parts packet (PP 40X0165)
4	40X0024	1	1	Right frame extension, 200/210/400/410
5	40X0026	1	1	Right side frame ground contact
6	40X0025	1	1	Left frame extension, 200/210/400/410
7	40X0060	1	1	External ground clip
8	40X0331	1	1	Left side hand holder
9	40X0285	1	1	Frame clip

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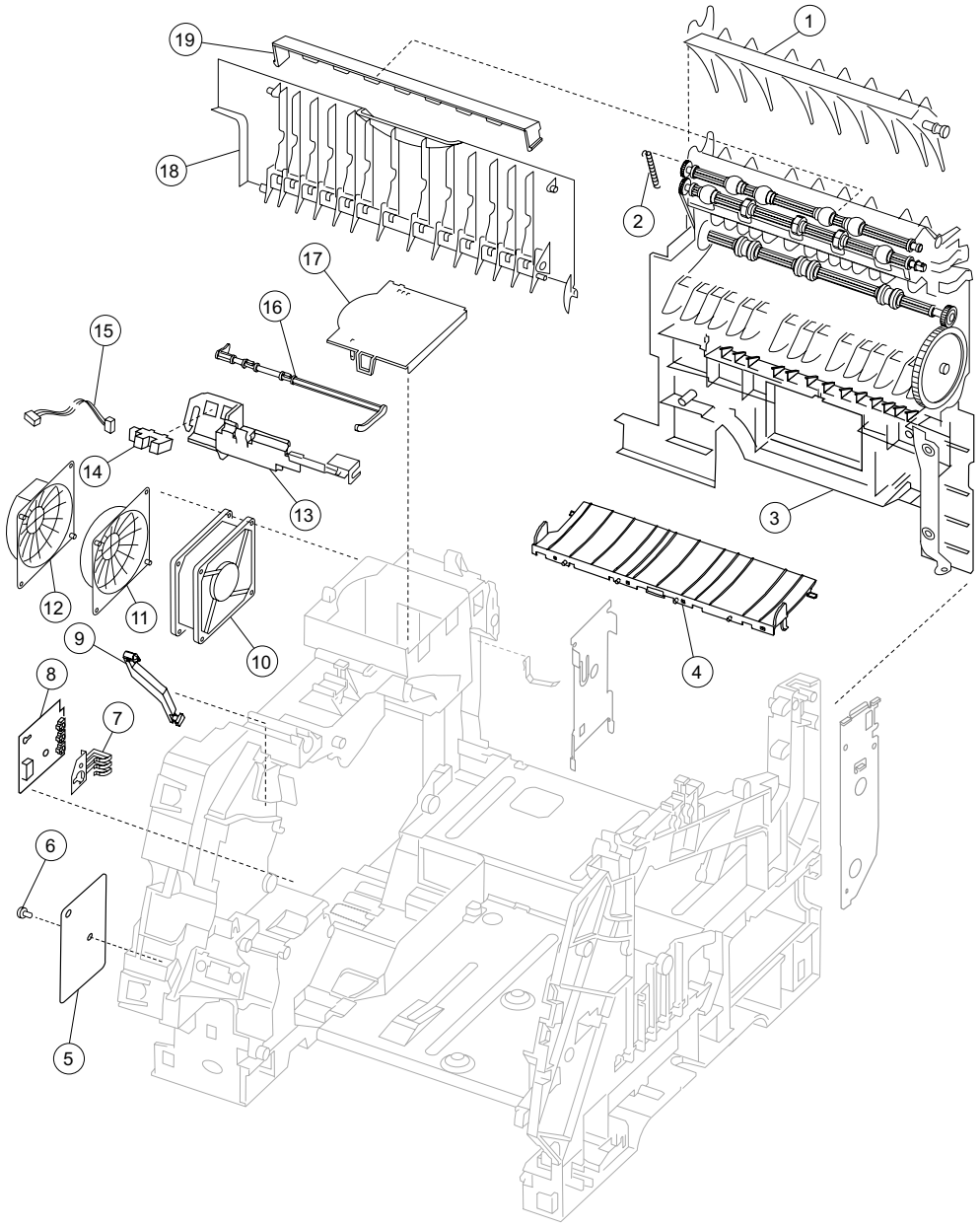
Assembly 3: Frame 2



Assembly 3: Frame 2

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
3—1	40X0027	1	1	Upper redrive deflector
2	40X0028	1	1	Upper diverter spring
3	40X0029	1	1	Redrive assembly—250-sheet in/250 out, 000/010
3	40X0030	1	1	Redrive assembly—500-sheet in/500 out, 200/210/400/410
4	40X0032	1	1	Transfer deflector
5	40X0044	1	1	Gear guard
6			3	Parts packet (PP 40X0165)
7	40X0048	1	1	Paper switch activate spring
8	40X0046	1	1	Paper size sensing board assembly
9	40X0049	1	1	Gear release link
10	40X0053	1	1	Main fan with cable—250-sheet output
10	40X0054	1	1	Main fan with cable—500-sheet output
11	40X0212	1	1	Main fan duct, 200/210/400/410
12	40X0211	1	1	Main fan duct, 000/010
13	40X0052	1	1	Standard bin level sensor bracket
14	40X0051	1	1	Standard bin level sensor
15	40X0264	1	1	Standard bin level sensor cable
16	40X0057	1	1	Output paper level flag, 000/010
16	40X0058	1	1	Output paper level flag, 200/210/400/410
17	40X0210	1	1	Main fan cap
18	40X0056	1	1	Redrive door assembly 250 sheet 000/010
18	40X0232	1	1	Redrive door assembly 500 sheet 200/210/400/410
19	40X0059	1	1	Extension guide

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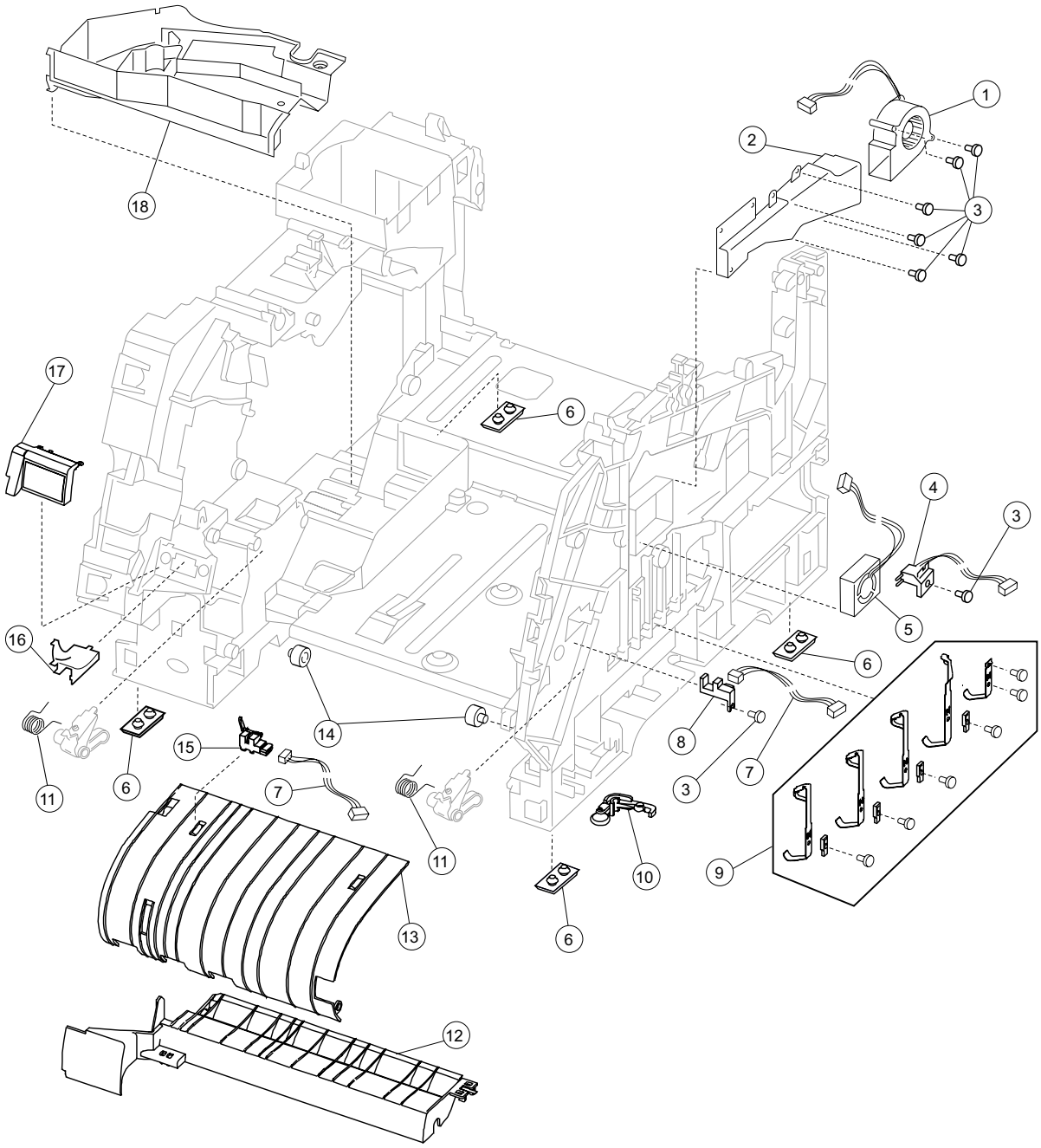
Assembly 4: Frame 3



Assembly 4: Frame 3

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
4—1	40X0249	1	1	EP DC fan assembly, 200/210/400/410
2	40X0208	1	1	Blower duct, 200/210/400/410
3		1	1	Parts packet (PP 40X0165)
3		1	1	Parts packet (PP 40X0165)
4	40X0034	1	1	Signature button sensor assembly
5	40X0035	1	1	EP DC fan assembly, 000/010
6	40X0033	4	1	Machine mounting pad
7	40X0223	1	1	HVPS/input sensor/toner sensor cable assembly
8	40X0036	1	1	Toner sensor assembly
9	40X0306	1	1	High voltage contact kit, including: • Charge roll contact (1) • Doc/TAR/Dev contact (3) • PC drum contact (1) • Screw (5) • Screw block (4)
10	40X0213	1	1	Tray bias assembly
11	40X0021	2	1	Cartridge holddown assembly
12	40X0040	1	1	Upper paper feed deflector
13	40X0041	1	1	Inner paper feed deflector, 000/010
13	40X0042	1	1	Inner paper feed deflector, 200/210/400/410
14	40X0039	2	1	Developer support roller
15	40X0043	1	1	Input sensor
16	40X0209	1	1	Gear #60 MPF shield
17	40X0045	1	1	ESD shield with label
18	40X0207	1	1	EP duct

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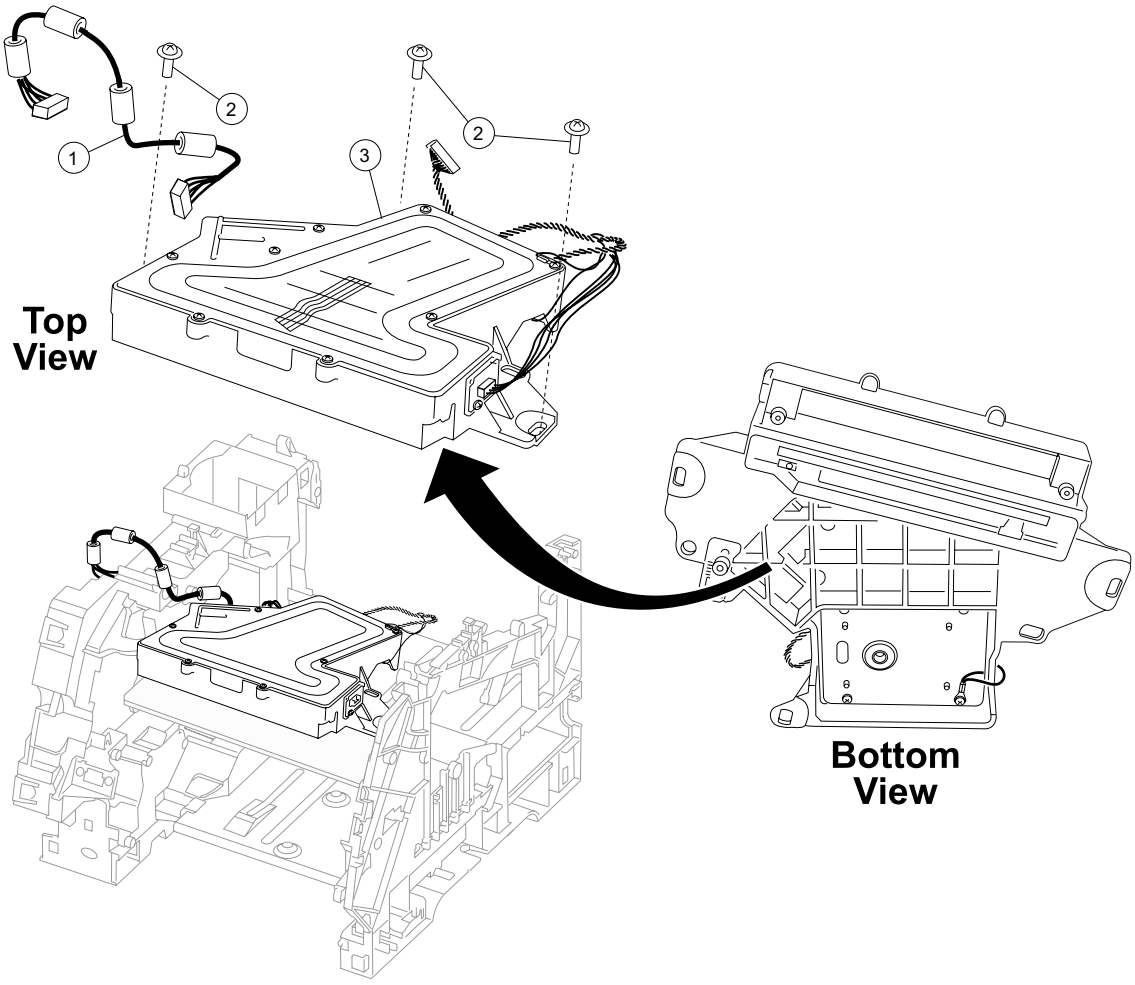
Assembly 5: Printhead



Assembly 5: Printhead

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
4—1	40X0061	1	1	Laser cable assembly
2				Parts packet (printhead mounting screw) (PP 40X0165)
3	40X0062	1	1	Printhead assembly (includes all cables)
				CAUTION: The printhead is not a serviceable FRU. Do not disassemble the printhead.

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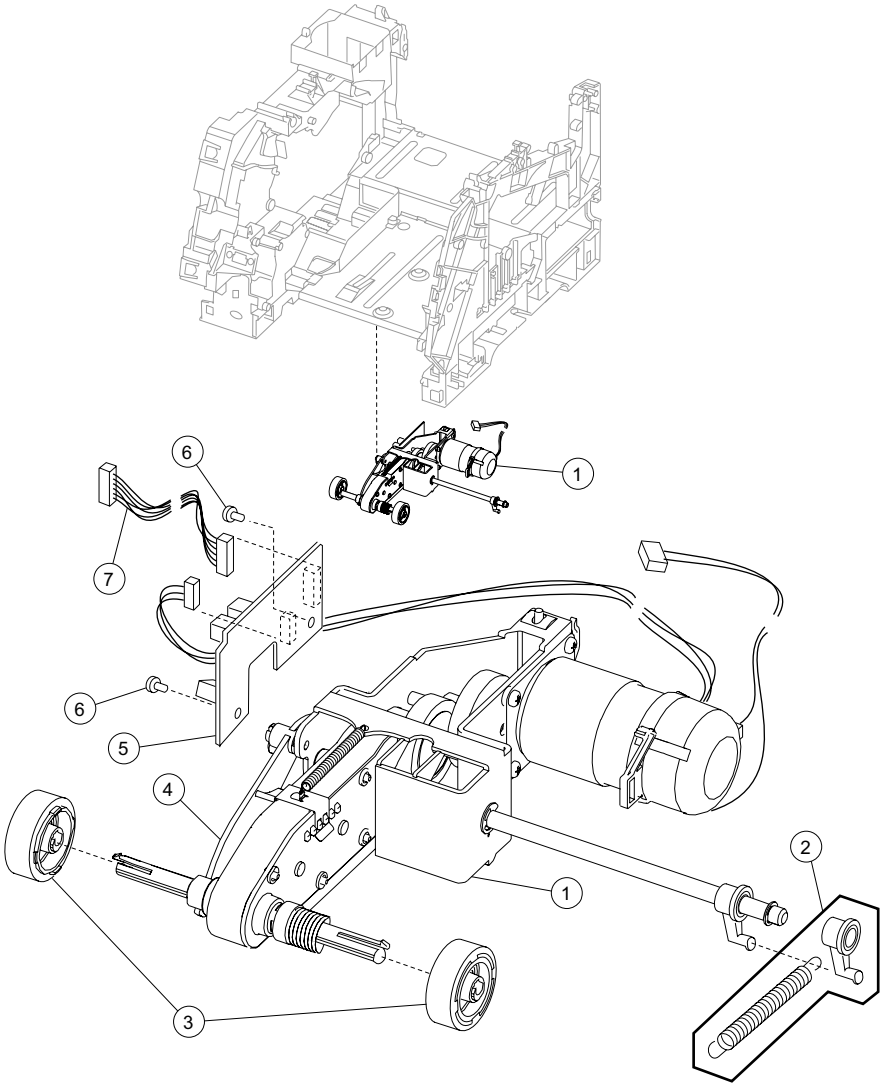
Assembly 6: Paper feed—autocompensator



Assembly 6: Paper feed—autocompensator

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
6—1	40X0066	1	1	Pick arm assembly—500-sheet, 200/210/400/410
1	40X0067	1	1	Pick arm assembly—250-sheet, 000/010
2	40X0068	1	1	Parts packet, bellcrank assembly—250-sheet tray, 000/010 • Bellcrank (1) • Spring (1)
2	40X0069	1	1	Parts packet, bellcrank assembly for—500-sheet tray, 200/210/400/410 • Bellcrank (1) • Spring (1)
3	40X0070	2	2	Pick roll assembly
4	40X0071	1	1	Paper out flag—250-sheet tray, 000/010
4	40X0072	1	1	Paper out flag—500-sheet tray, 200/210/400/410
5	40X0073	1	1	Paper low/out sensor card assembly
6				Parts packet (hanger) (PP 40X0165)
7	40X0074	1	1	Paper size/autocompensator cable

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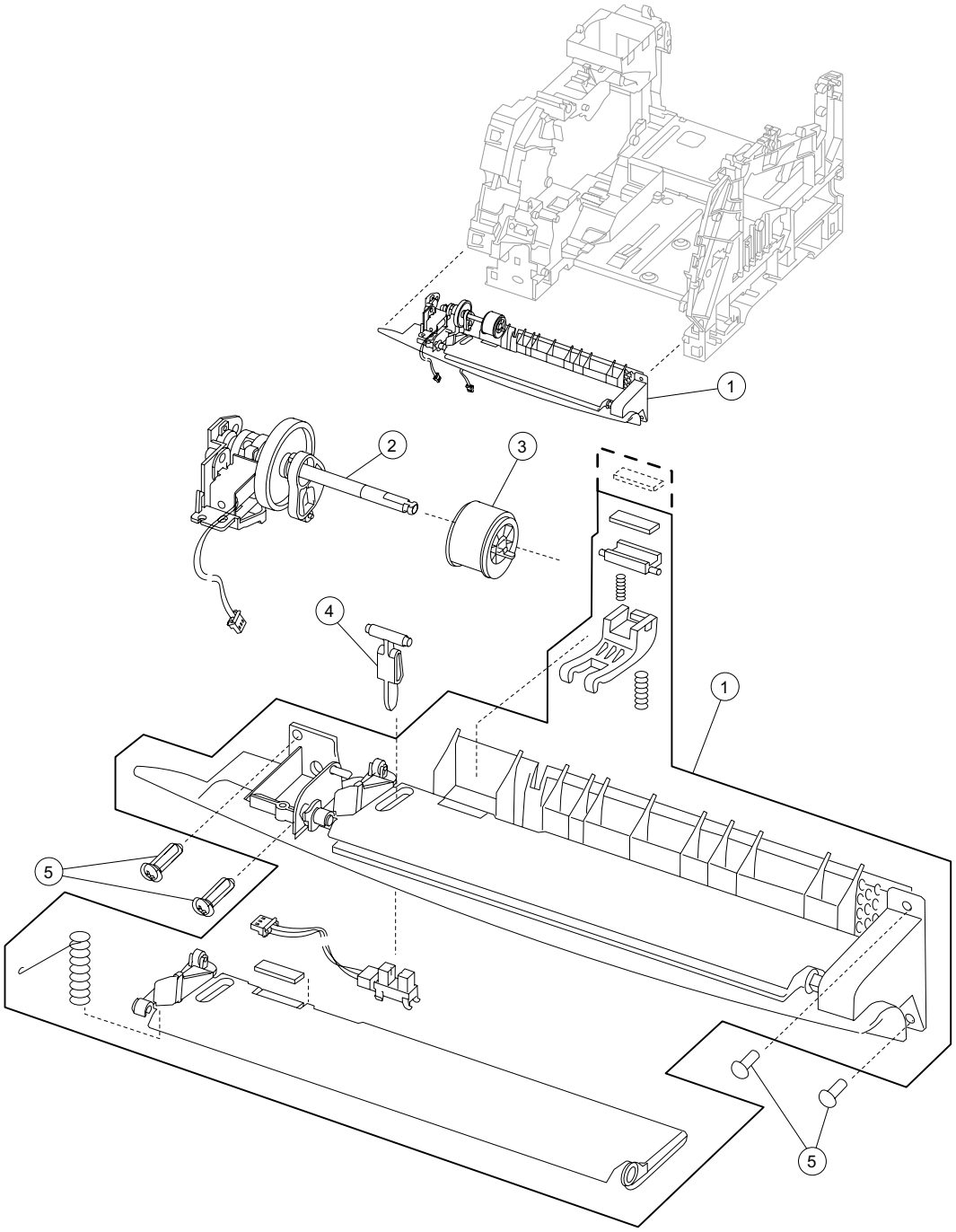
Assembly 7: Paper feed—multipurpose feeder



Assembly 7: Paper feed—multipurpose feeder

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
7—1	40X0079	1	1	Multipurpose feeder lower deflector assembly
2	40X0310	1	1	Multipurpose feeder pick arm assembly with solenoid
3	40X0076	1	1	Pick roll assembly
4	40X0077	1	1	Multipurpose feeder paper out flag
5				Parts packet (lower deflector mounting screw, 8 mm) (PP 40X0165)
5				Parts packet (lower deflector mounting screw, 12 mm) (PP 40X0165)
5			1	Parts packet (frame mounting screw) (PP 40X0165)
NS				Parts packet (pick roll shaft clip) (PP 40X0165)

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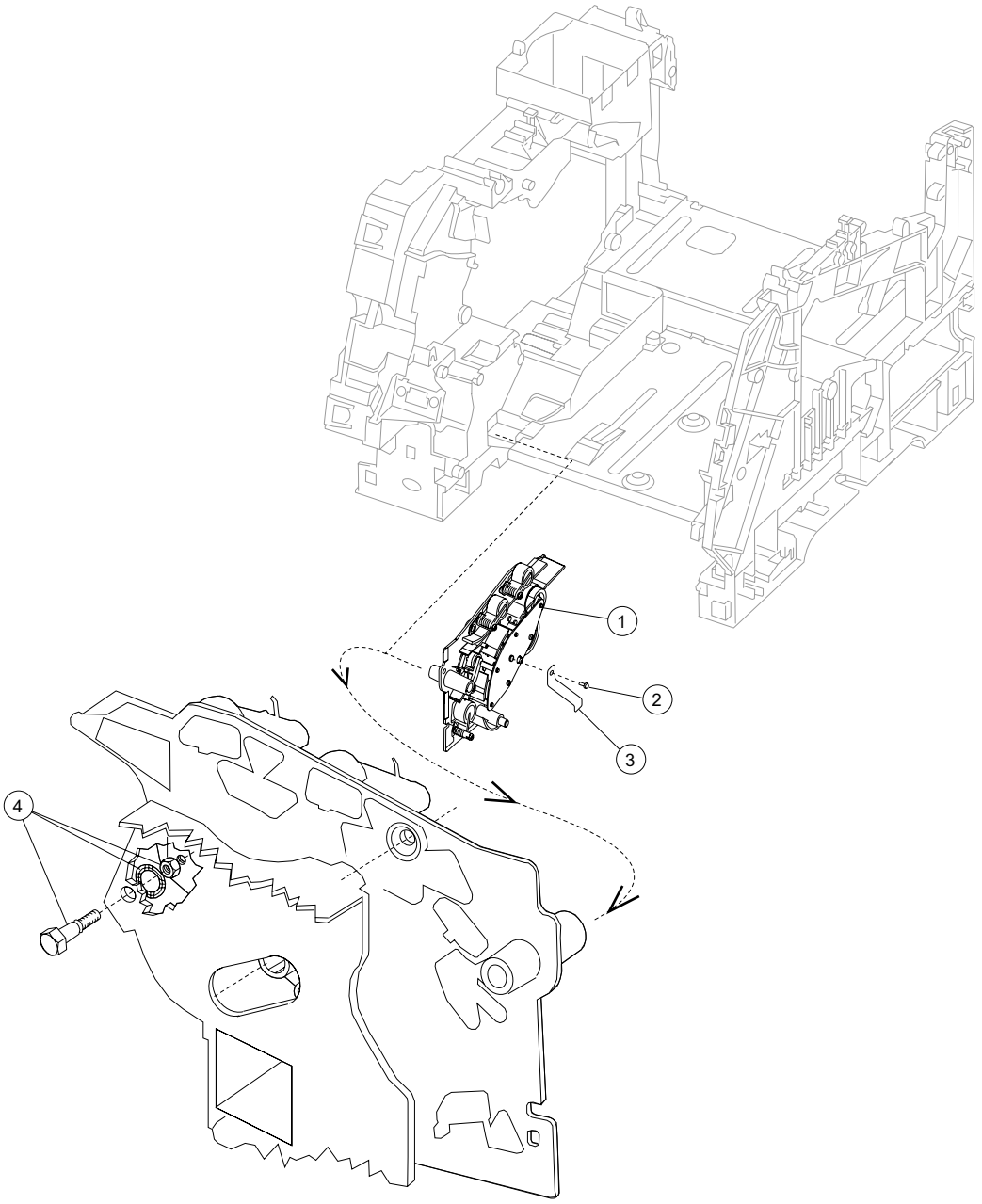
Assembly 8: Paper feed—alignment



Assembly 8: Paper feed—alignment

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
8—1	40X0084	1	1	Paper feed alignment assembly paper feed
2				Parts packet (clip ref ground mounting screw) (PP 40X0165)
3	40X0085	1	1	Reference ground clip
4	40X0086			Parts packet (reference adjust) • Screw, paper reference adjust (1) • Washer, paper reference adjust (1) • Nut, paper reference adjust (1)
NS				Parts packet (alignment asm mounting screw) (PP 40X0165)

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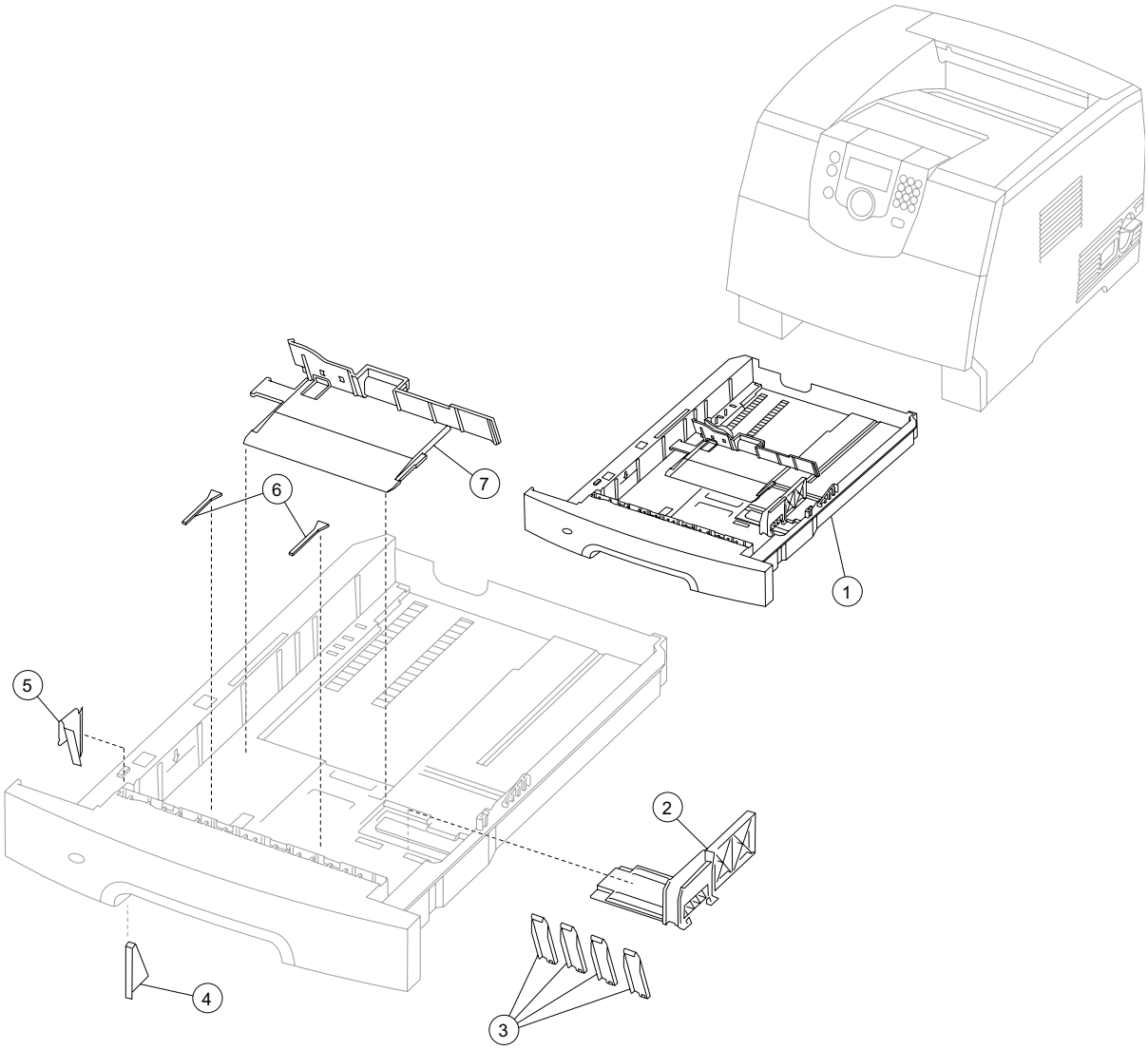
Assembly 9: Integrated 250-sheet paper tray



Assembly 9: Integrated 250-sheet paper tray

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
9—1	40X0087	1	1	Integrated 250-sheet tray
2	40X0092	1	1	Side restraint—250-sheet tray
3	40X0093	4	1	Wear strips
4	40X0263	1	1	Pass thru plate—250-sheet tray
5	40X0094	1	1	Wear plate—250-sheet tray
6	40X0105	2	1	Restraint pad
7	40X0090	1	1	Back restraint—250-sheet tray

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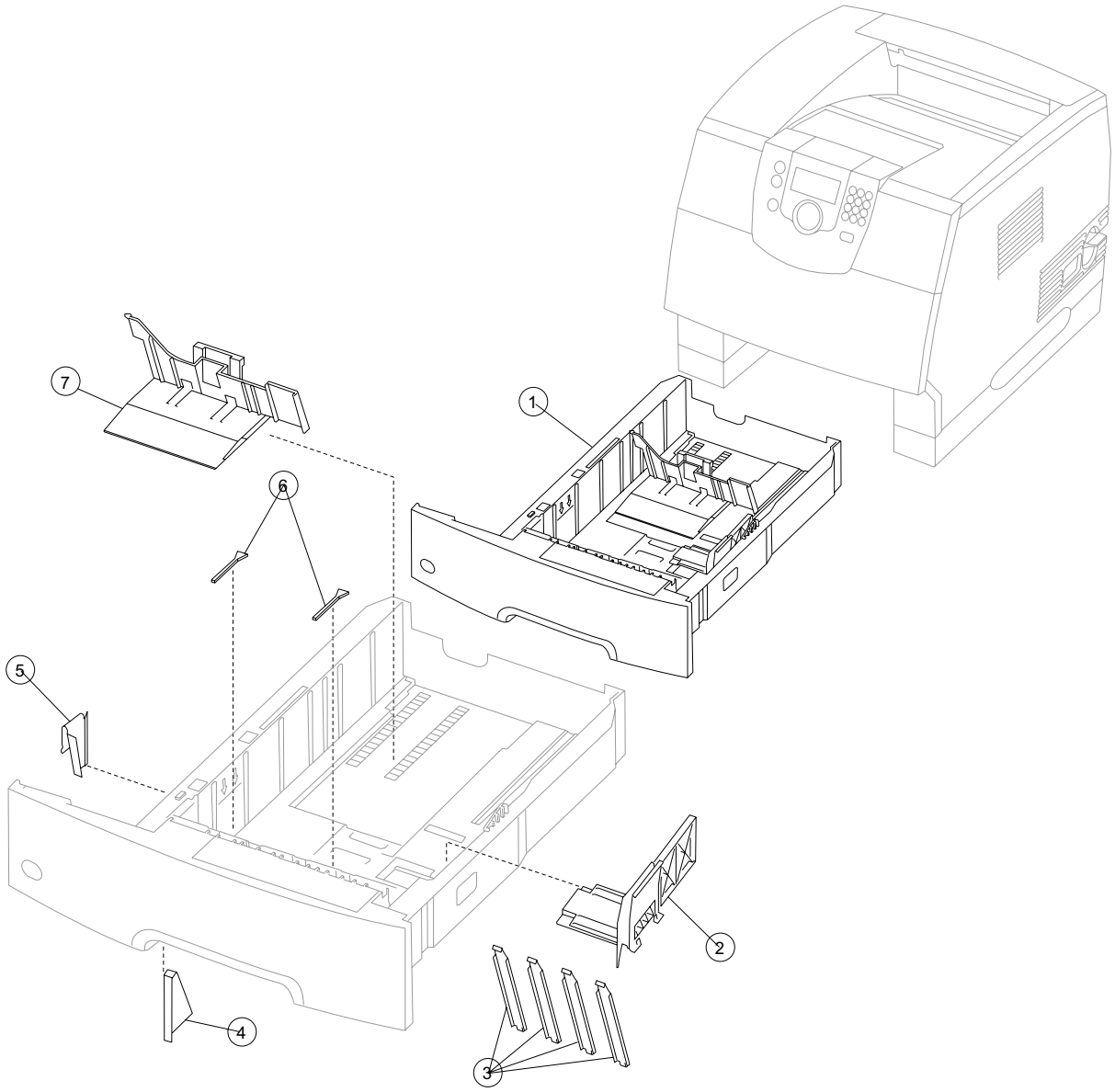
Assembly 10: Integrated 500-sheet paper tray



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Assembly 10: Integrated 500-sheet paper tray

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
10—1	40X0098	1	1	Tray assembly—500-sheet tray
2	40X0099	1	1	Side restraint
3	40X0182	4	1	Wear strip
4	40X0103	1	1	Pass thru plate—500-sheet tray
5	40X0183	1	1	Wear plate—500-sheet tray
6	40X0105	2	1	Restraint pad
7	40X0106	1	1	Back restraint

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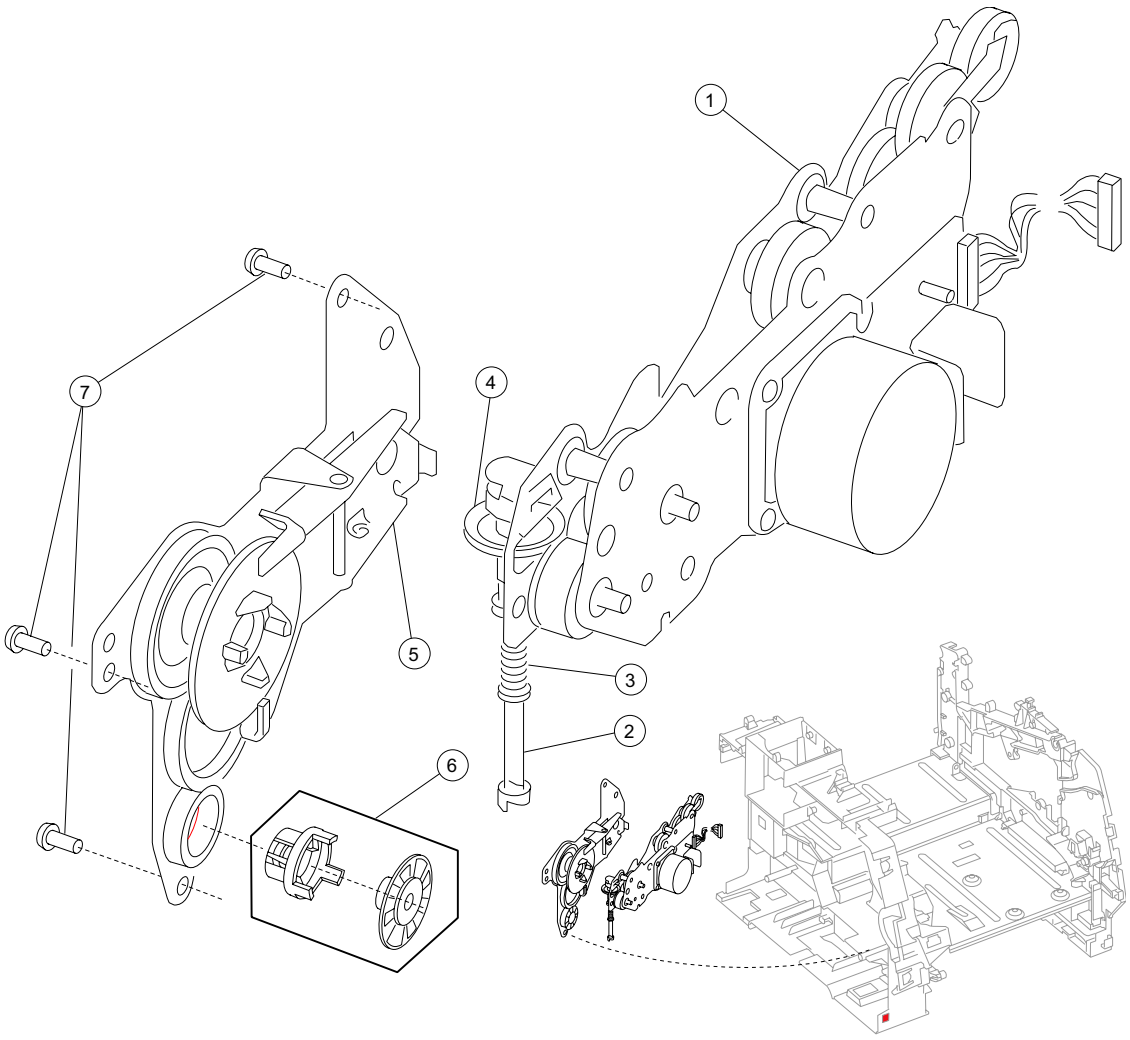
Assembly 11: Drives—Main drive and developer drive



Assembly 11: Drives—Main drive and developer drive

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
11—1	40X0107	1	1	Gearbox with motor
2	40X0110	1	1	Power takeoff shaft—250-sheet, 000/010
2	40X0111	1	1	Power takeoff shaft—500-sheet, 200/210/400/410
3	40X0112	1	1	Power takeoff shaft spring
4	40X0113	1	1	Bevel gear with grease packet and washer • Bevel gear (1) • Instruction sheet (1) • Grease packet (1)
5	40X0114	1	1	Developer drive assembly
6	40X0115			Parts packet, developer drive • Developer drive shaft (1) • shaft, coupler gear #55 (1)
7			3	Parts packet (developer drive ground screw) (PP 40X0165)
NS			4	Parts packet (gearbox mounting screw) (PP 40X0165)

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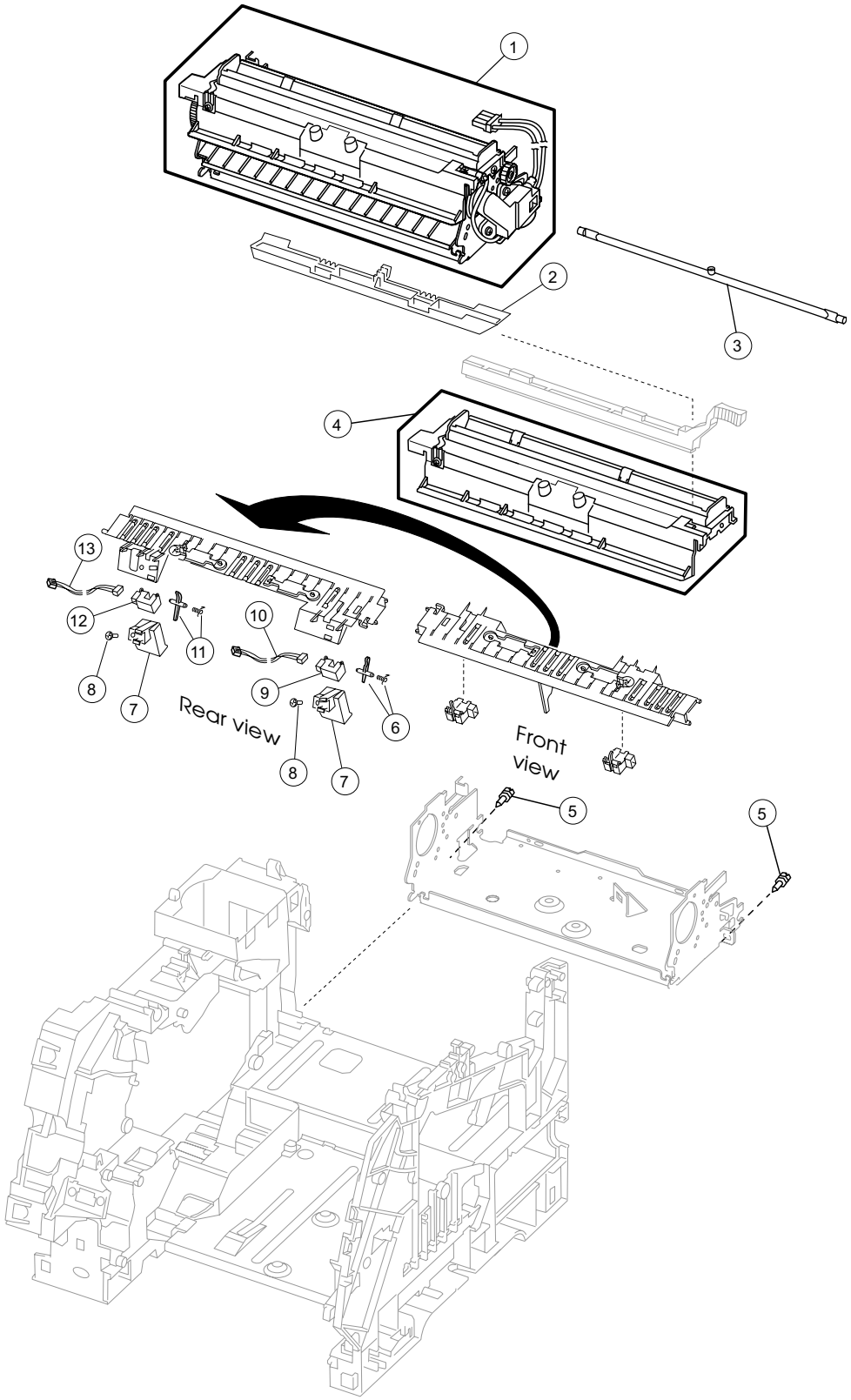
Assembly 12: Hot roll fuser



Assembly 12: Hot roll fuser

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
12—1	40X2592	1	1	Fuser assembly w/115 V lamp
1	40X2591	1	1	Fuser assembly w/100 V lamp
1	40X2590	1	1	Fuser assembly w/220 V lamp
2	40X0120	1	1	Fuser wiper cavity cover
3	40X0122	1	1	Fuser lamp, 115V
3	40X0123	1	1	Fuser lamp, 220V
4	40X0121	1		Fuser cover assembly kit, including: • Thermistor (1) • Thermostat (1) • Left and right fuser lamp contact assemblies (1)
5				Parts packet (fuser mounting screw) (PP 40X0227)
6	40X0239	1		Exit sensor flag/spring kit, including: • Spring (1) • Flag (1)
7	40X0236	1	1	Exit/narrow media sensor cover
8				Parts packet (PP 40X0165)
9	40X0125	1	1	Exit sensor
10	40X0230	1	1	Exit sensor cable
11	40X0238	1		Narrow media flag/spring kit, including: 1 • Spring 1 • Flag
12	40X0124	1	1	Narrow media sensor
13	40X0229	1	1	Narrow media sensor cable
NS	40X0226	1	1	Fuser AC to fuser lamp cable

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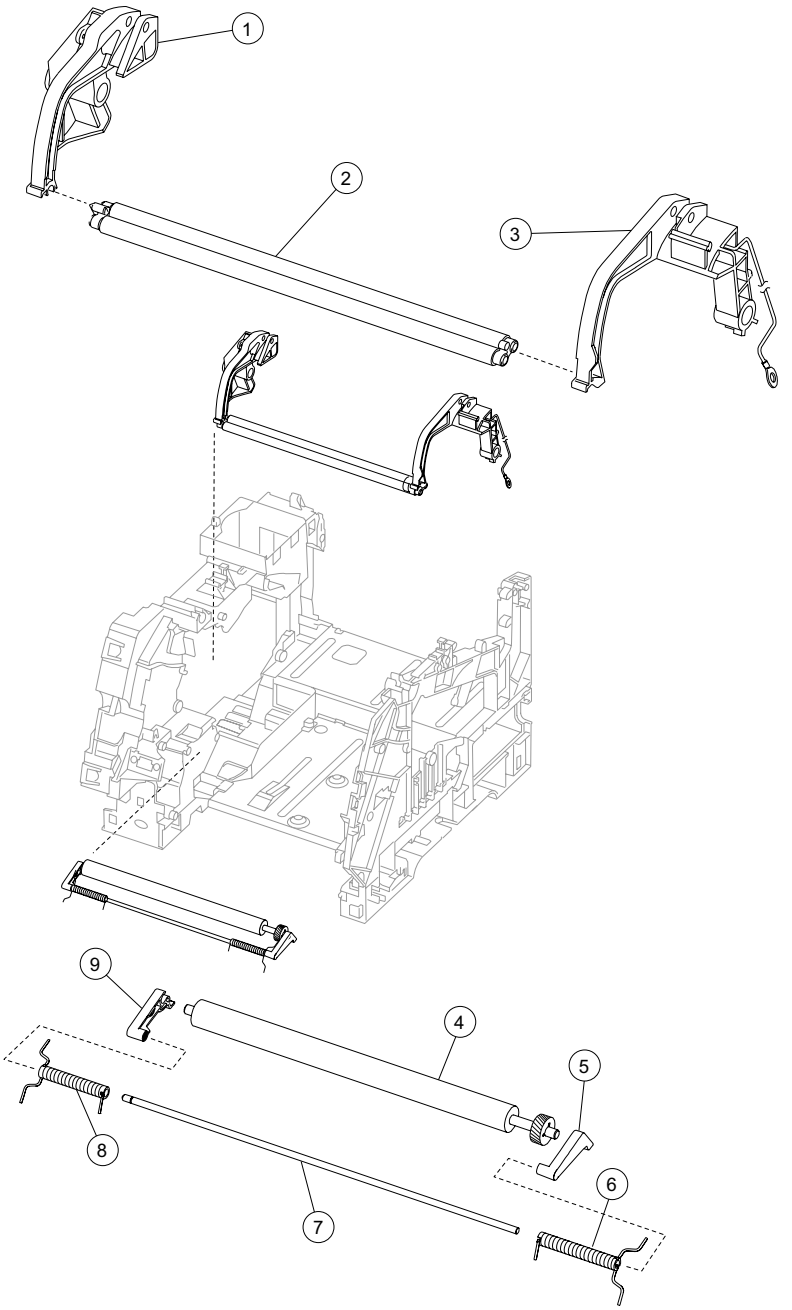
Assembly 13: Transfer/charging



Assembly 13: Transfer/charging

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
13—1	40X0126		1	Parts kit, charge roll link asm, left side
2	40X0127	1	2	Charge roll assembly, dual
3	40X0129		1	Parts kit, right side charge roll link assembly
4	40X0130	1	1	Transfer roll assembly
5	40X0131	1	1	Transfer roll assembly right arm
6	40X0132	1	1	Transfer roll right spring
7	40X0133	1	1	Transfer pivot shaft
8	40X0134	1	1	Transfer roll left spring
9	40X0135	1	1	Transfer roll left arm
NS			1	Parts packet (charge roll screw) (PP 40X0165)
NS			1	Parts packet (C-clip, pivot shaft) (PP 40X0165)

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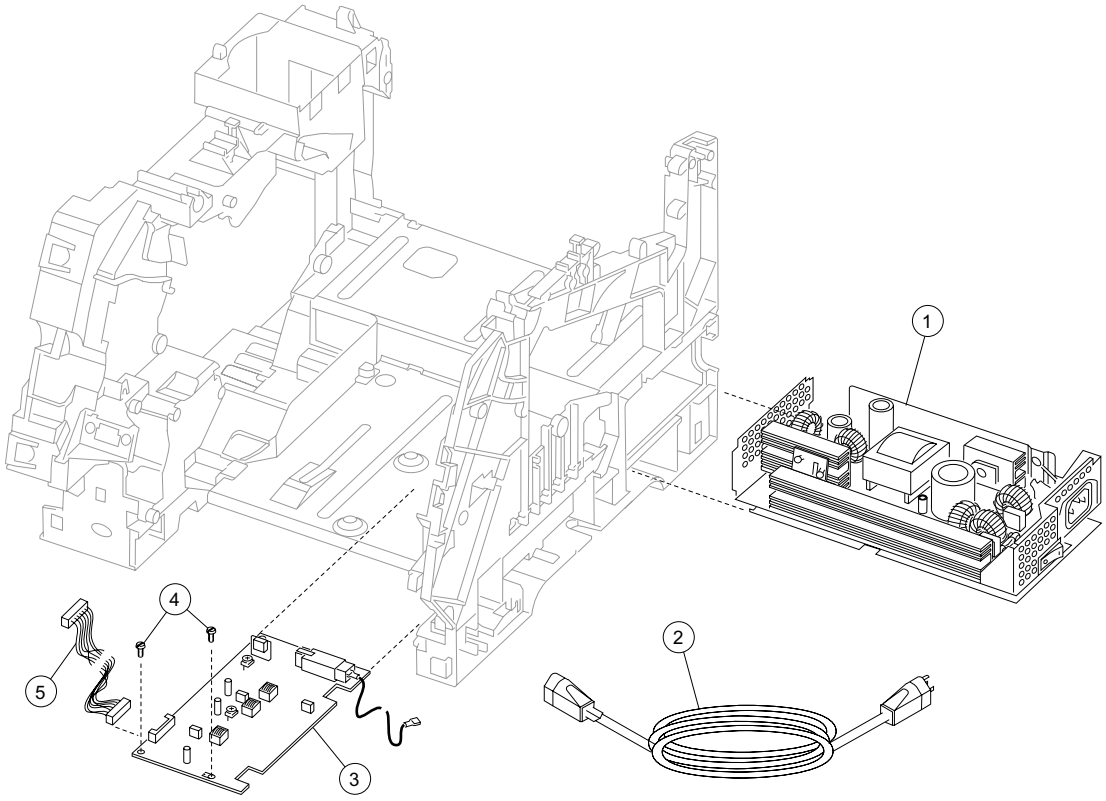
Assembly 14: Electronics—power supplies



Assembly 14: Electronics—power supplies

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
14—1	56P4232	1	1	LVPS—115 V ac, 000/010
1	56P4233	1	1	LVPS—115 V ac, 200/210/400/410
1	56P4234	1	1	LVPS—220 V ac, 000/010
1	56P4238	1	1	LVPS—220 V ac, 200/210/400/410
2	40X0260	1	1	Power cord set (8 ft right angle, 13 amp)—United States, Canada, Caribbean countries, Colombia, Costa Rica, Dominican Republic, El Salvador, Equator, Guatemala, Honduras, Mexico, Nicaragua, Panama, Puerto Rico, Saudi Arabia, Venezuela, and Virgin Islands
2	40X0256	1	1	Power cord set (8 ft right angle)—Bolivia and Peru
2	40X0255	1	1	Power cord set (8 ft right angle)—Argentina
2	40X0257	1	1	Power cord set (8 ft right angle)—Chile, Uruguay
2	40X0258	1	1	Power cord set (8 ft right angle)—Arabic, Austria, Belgium, Bluemark, CIS, Czechoslovakia, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Medmark, (1 and 2), Netherlands, Norway, Paraguay, Poland, Portugal, Russia, Slavic countries, Spain, Sweden, Turkey, and UK.
2	40X0293	1	1	Power cord set (8 ft right angle)—Arabic, Austria, Belgium, Bluemark, CIS, Czechoslovakia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Medmark, (1 and 2), Netherlands, Poland, Portugal, Russia, Slavic countries, Spain, Turkey, and UK.
2	40X0259	1	1	Power cord set (6 ft right angle)—Brazil
2	40X0301	1	1	Power cord set (8 ft straight)—AS/NZS
2	40X0271	1	1	Power cord set (8 ft straight)—Hong Kong
2	40X0302	1	1	Power cord set (8 ft right angle)—Japan
2	40X0280	1	1	Power cord set (6 ft straight)—Korea
2	40X0303	1	1	Power cord set (8 ft straight)—PRC
2	40X0281	1	1	Power cord set (6 ft right angle)—Taiwan
2	40X0294	1	1	Power cord set (8 ft right angle)—Denmark, Norway, and Sweden
2	40X0295	1	1	Power cord set (8 ft right angle)—Israel
2	40X0304	1	1	Power cord set (8 ft right angle)—Botswana, Lesotho, Namibia, Pakistan, and South Africa
2	40X0305	1	1	Power cord set (8 ft right angle)—Switzerland
3	56P4239	1	1	High voltage power supply
4		1		Parts packet (PP 40X0165)
5	40X0223	1	1	Front cable harness (HVPS/input sensor/toner sensor)

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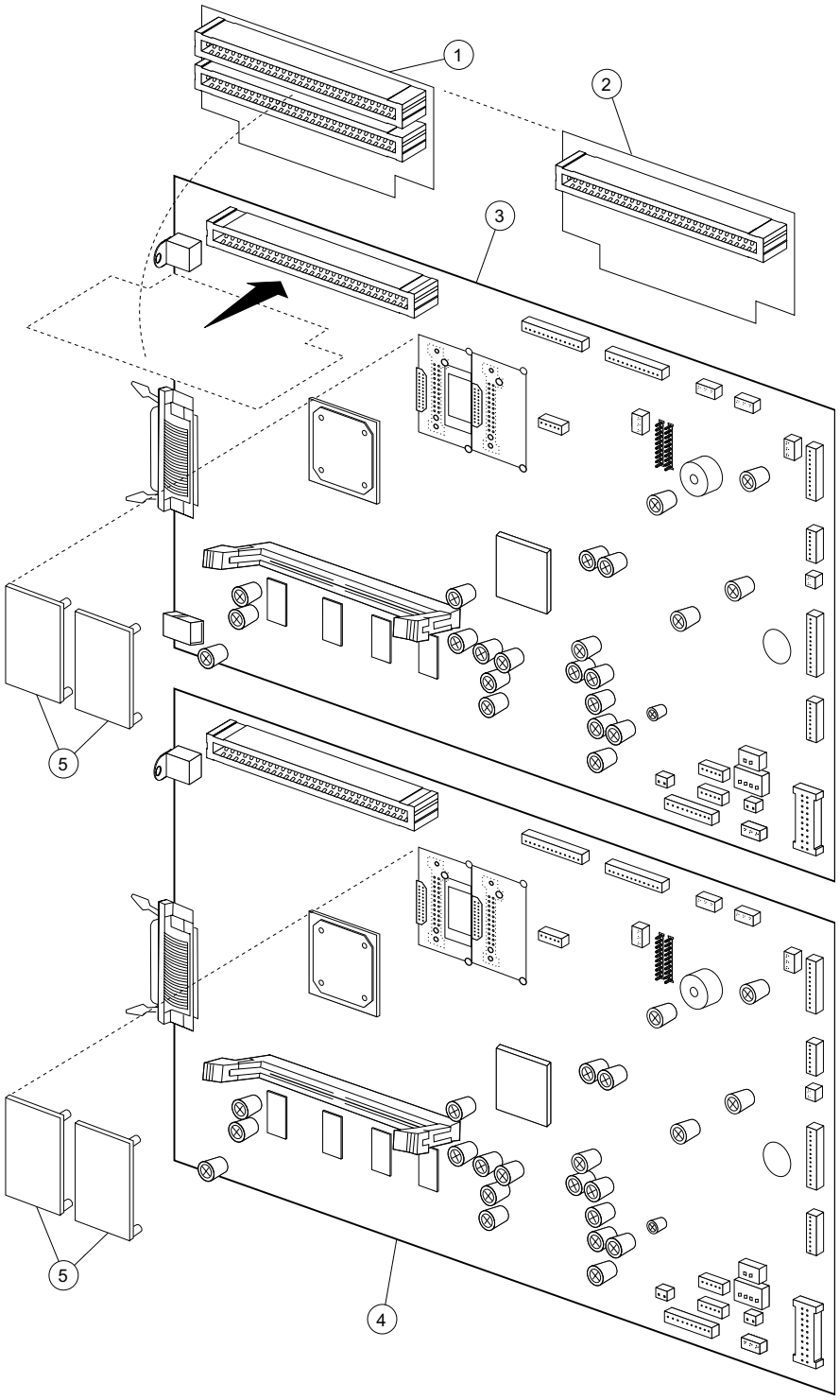
Assembly 15: Electronics—card assemblies



Note:

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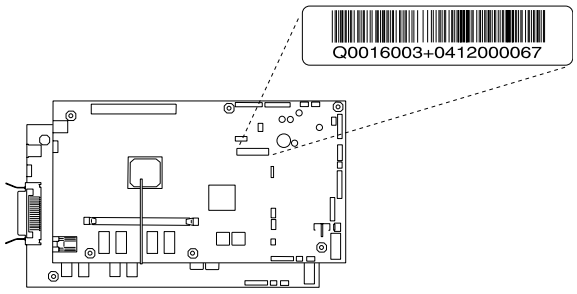
Assembly 15: Electronics—card assemblies

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
15—1	40X0146	1	1	Interconnect card assembly (2 slot), 200/210/400/410
2	40X0147	1	1	Interconnect card assembly (1 slot), 000/010
3	56P4355	1	1	System board assembly (non-network), 000 (Board ID Q0016034)
3	56P4357	1	1	System board assembly (non-network), 200 (Board ID Q0016035)
3	56P4359	1	1	System board assembly (non-network), 400 (Board ID Q0016036)
4	56P4356	1	1	System board assembly (network), 010 (Board ID Q0016031)
4	56P4358	1	1	System board assembly (network), 210 (Board ID Q0016032)
4	56P4360	1	1	System board assembly (network), 410 (Board ID Q0016033)
5	40X0198	1	1	Bar code card assembly
5	40X0248	1	1	IPDS and SC5/TNe card assembly
5	40X0199	1	1	PrintCryption card assembly
5	40X0265	1	1	PRESCRIBE card assembly

Note: The system board has a label with an board ID and barcode. Use the first eight numbers to identify the board with the part number in the table above:



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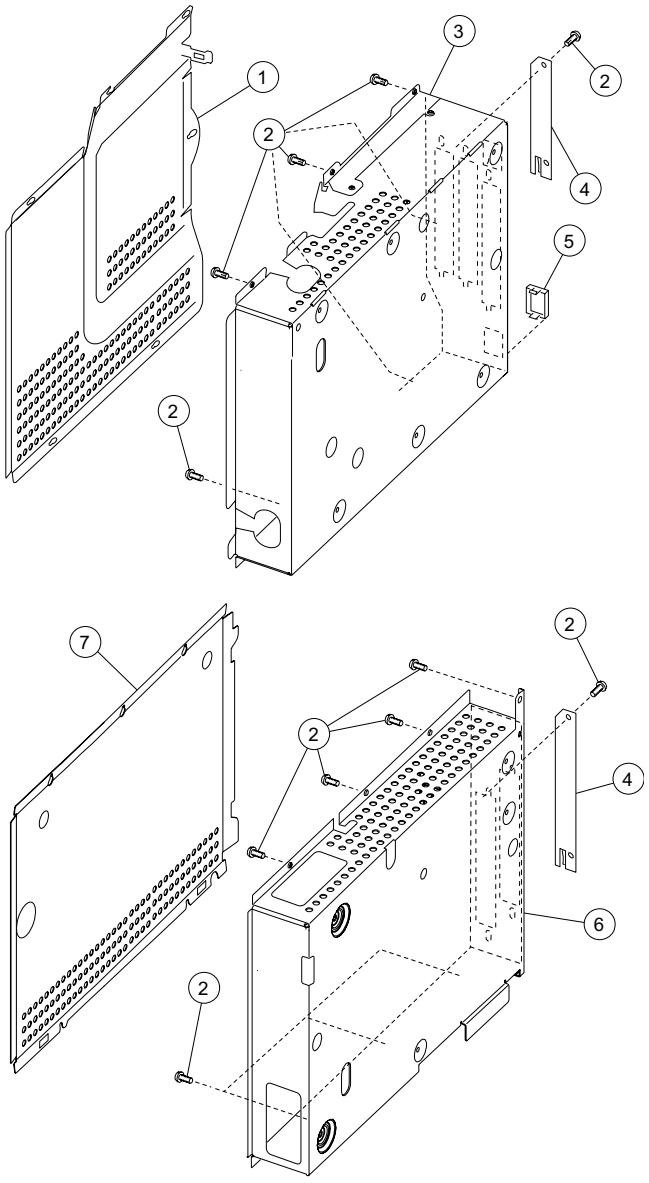
Assembly 16: Electronics—shields



Assembly 16: Electronics—shields

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
16—1	40X0150	1	1	Outer shield—2 slot, 200/210/400/410
2				Parts packet (INA cover mounting screw) (PP 40X0165)
2				Parts packet (outer shield mounting screw) (PP 40X0165)
2				Parts packet (inner shield mounting screw) (PP 40X0165)
3	40X0149	1	1	Inner shield assembly—2 slot, 200/210/400/410
4	40X0153	1	1	INA flat cover (blank)
5	40X0152	1	1	Ethernet shield (blank), 000/200/400
6	40X0154	1	1	Inner shield assembly—1 slot. 000/010
7	40X0222	1	1	Outer shield—1 slot, 000/010

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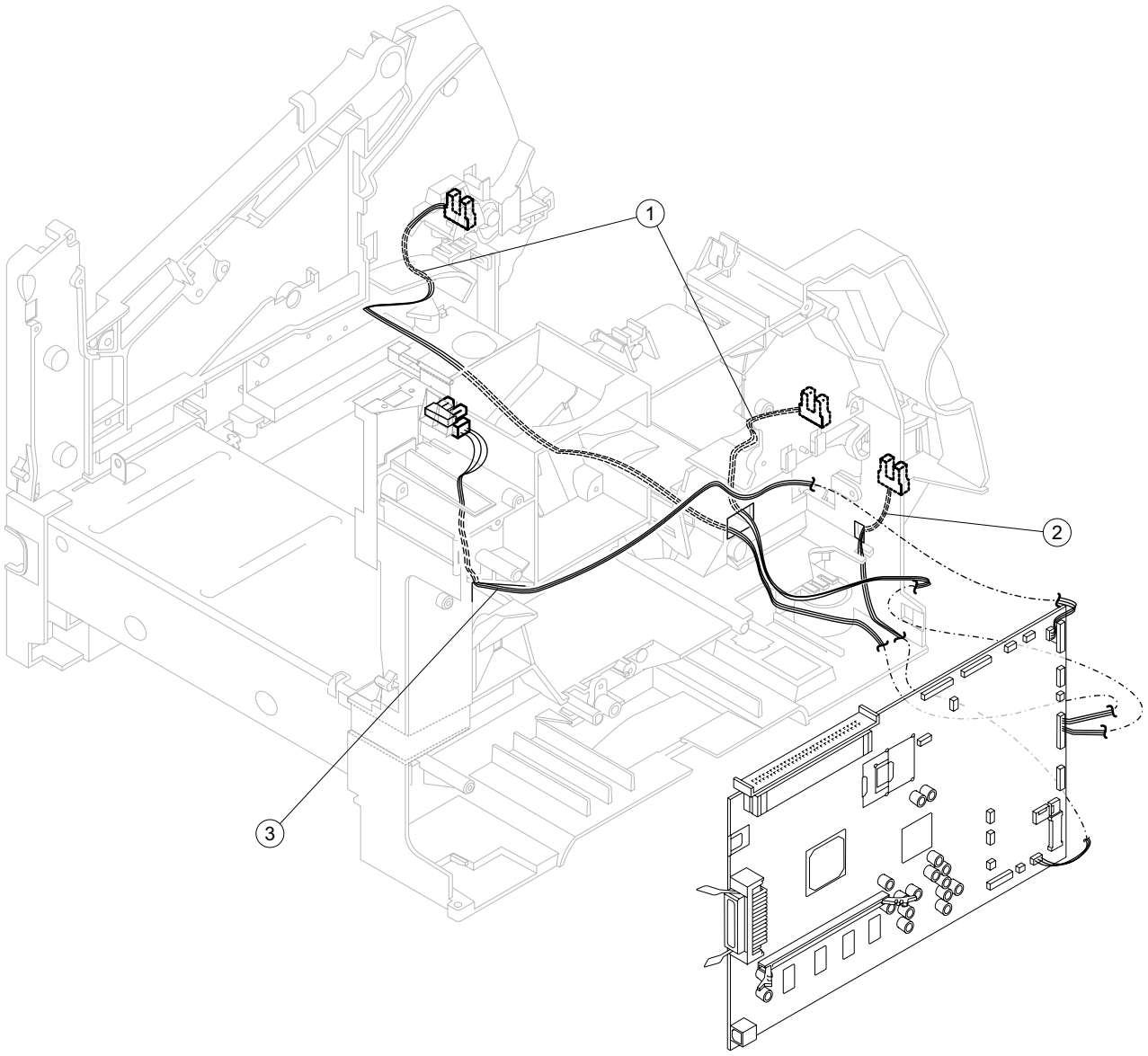
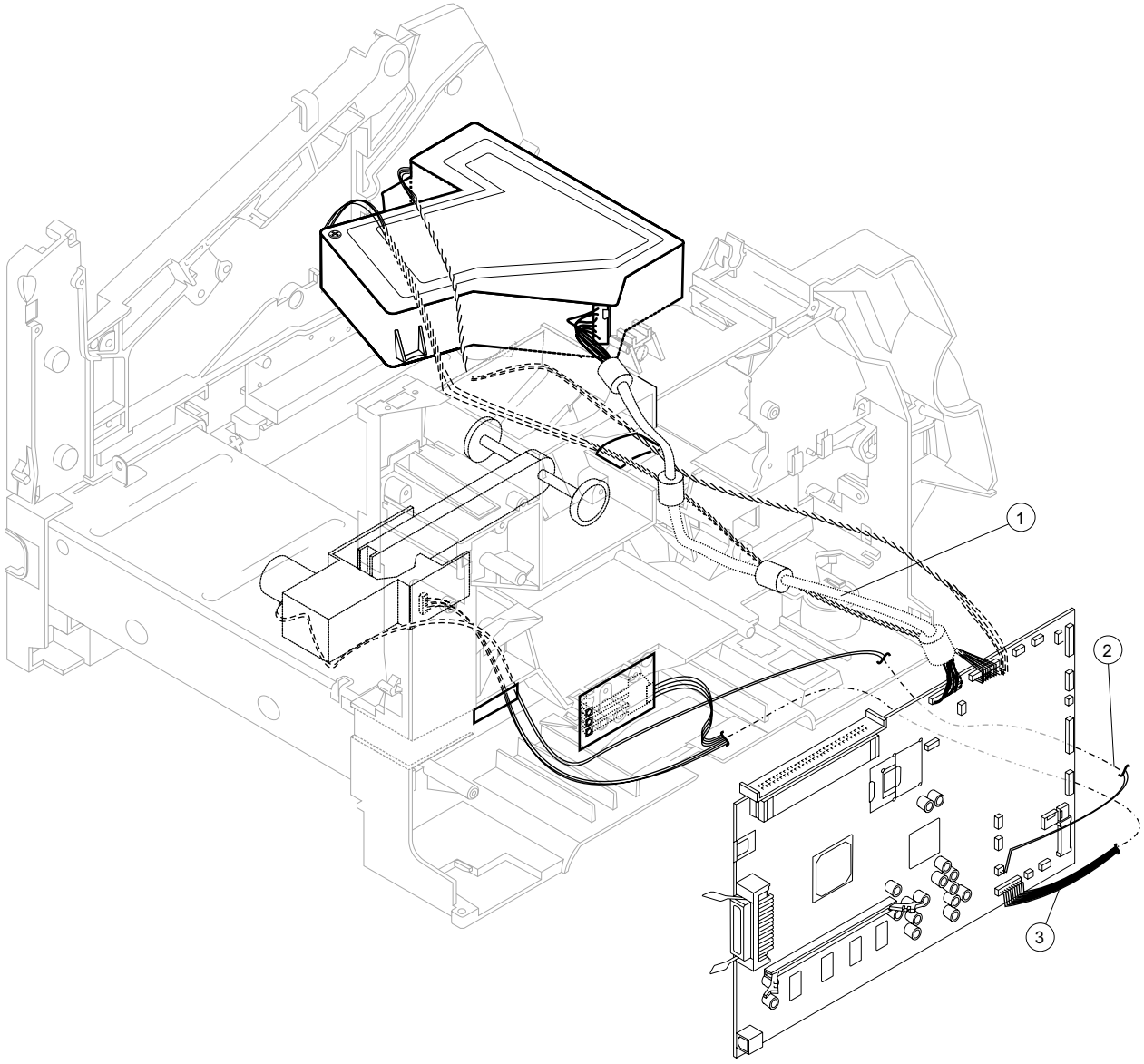
Assembly 17: Cabling diagrams 1



Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
17—1	40X0223	1	1	HVPS/input sensor/toner sensor cable assembly
2	40X0160	1	1	MPF sensor cable
3	40X0264	1	1	Output bin sensor cable

Assembly 18: Cabling diagrams 2



Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
18—1	40X0061	1	1	Laser printhead cable assembly
2	40X0074	1	1	Autocompensator motor cable
3	40X0046	1	1	Paper size sensing board/Tray 1 autocompensator paper out/low cable

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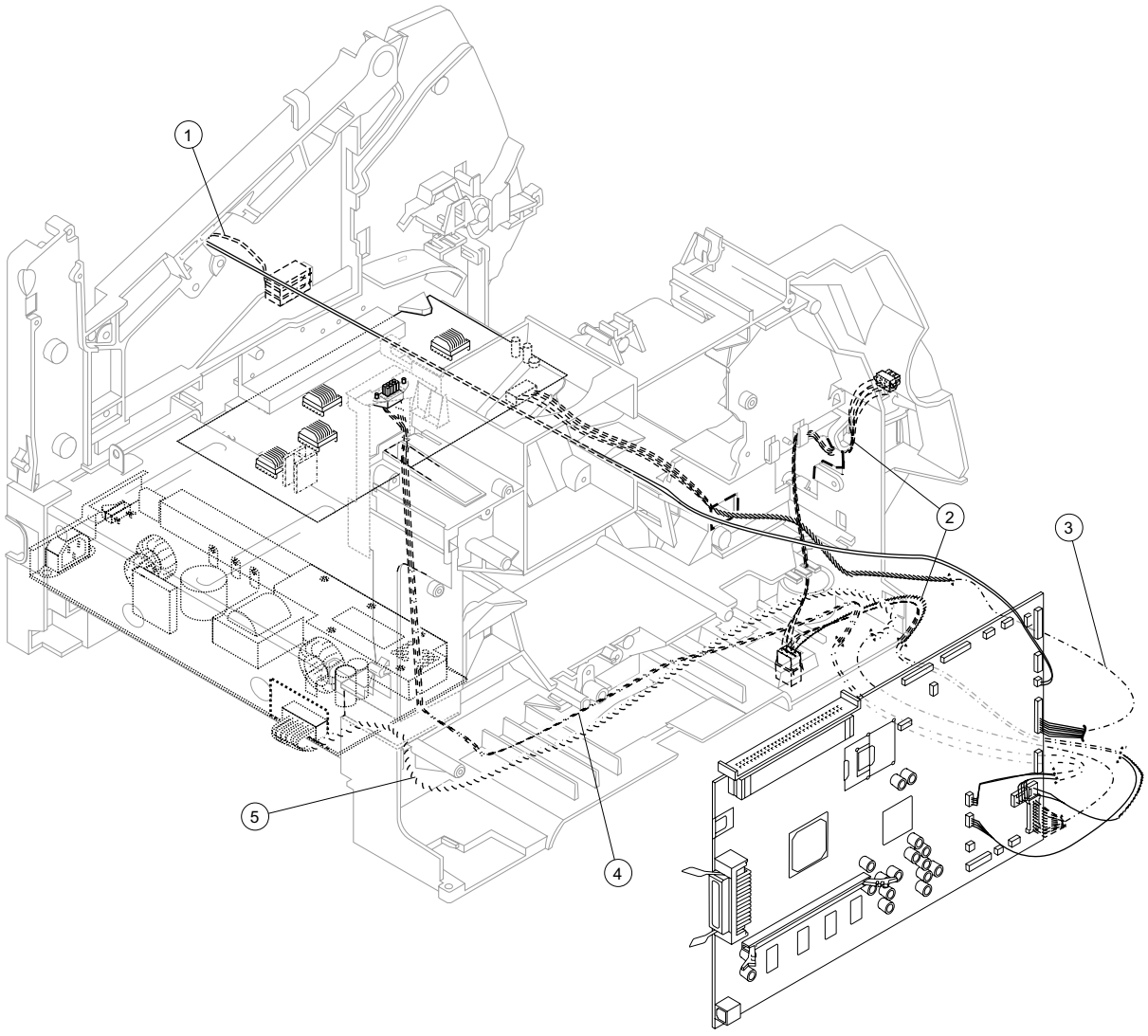
Assembly 19: Cabling diagrams 3



Assembly 19: Cabling diagrams 3

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
19—1	40X0034	1	1	Signature button contact assembly with cable
2	40X0156	1	1	Bottom/front autoconnect cable assembly
3	40X0223	1	1	HVPS/input sensor/toner sensor cable assembly
4	40X0157	1	1	Top autoconnect cable assembly
5	40X0224	1	1	LVPS to system board cable assembly

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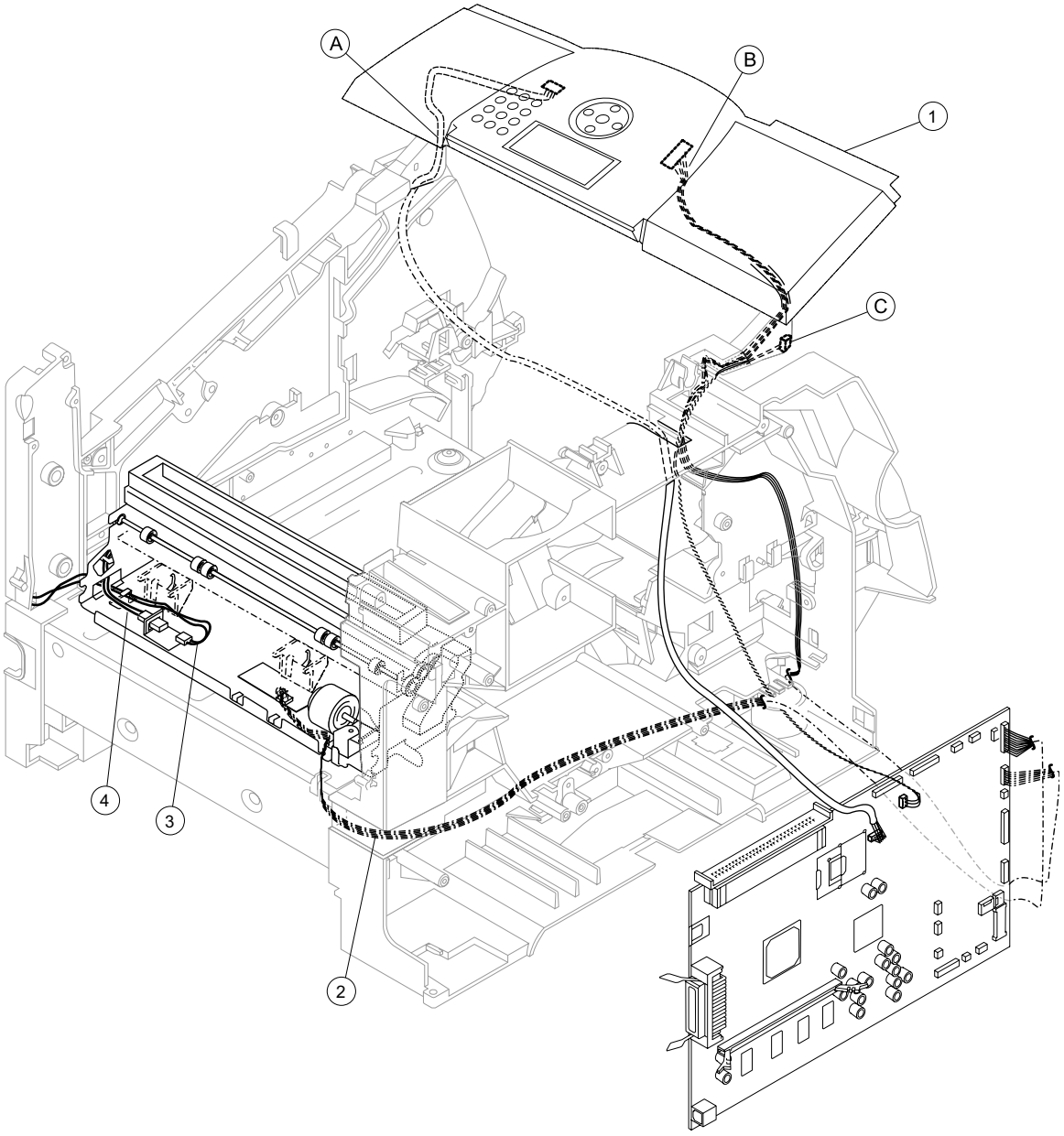
Assembly 20: Cabling diagrams 4



Assembly 20: Cabling diagrams 4

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
20—1	40X0006	1	1	Upper front cover hinge assembly, includes: • USB cable (A) (1) • Operator panel cable (B) (1) • Cover open switch/cable (C) (1)
2	40X0162	1	1	System board to fuser board cable assembly
3	40X0163	1	1	Fuser AC lamp to LVPS cable assembly
4	40X0226	1	1	Fuser connector (fuser AC to fuser lamp)

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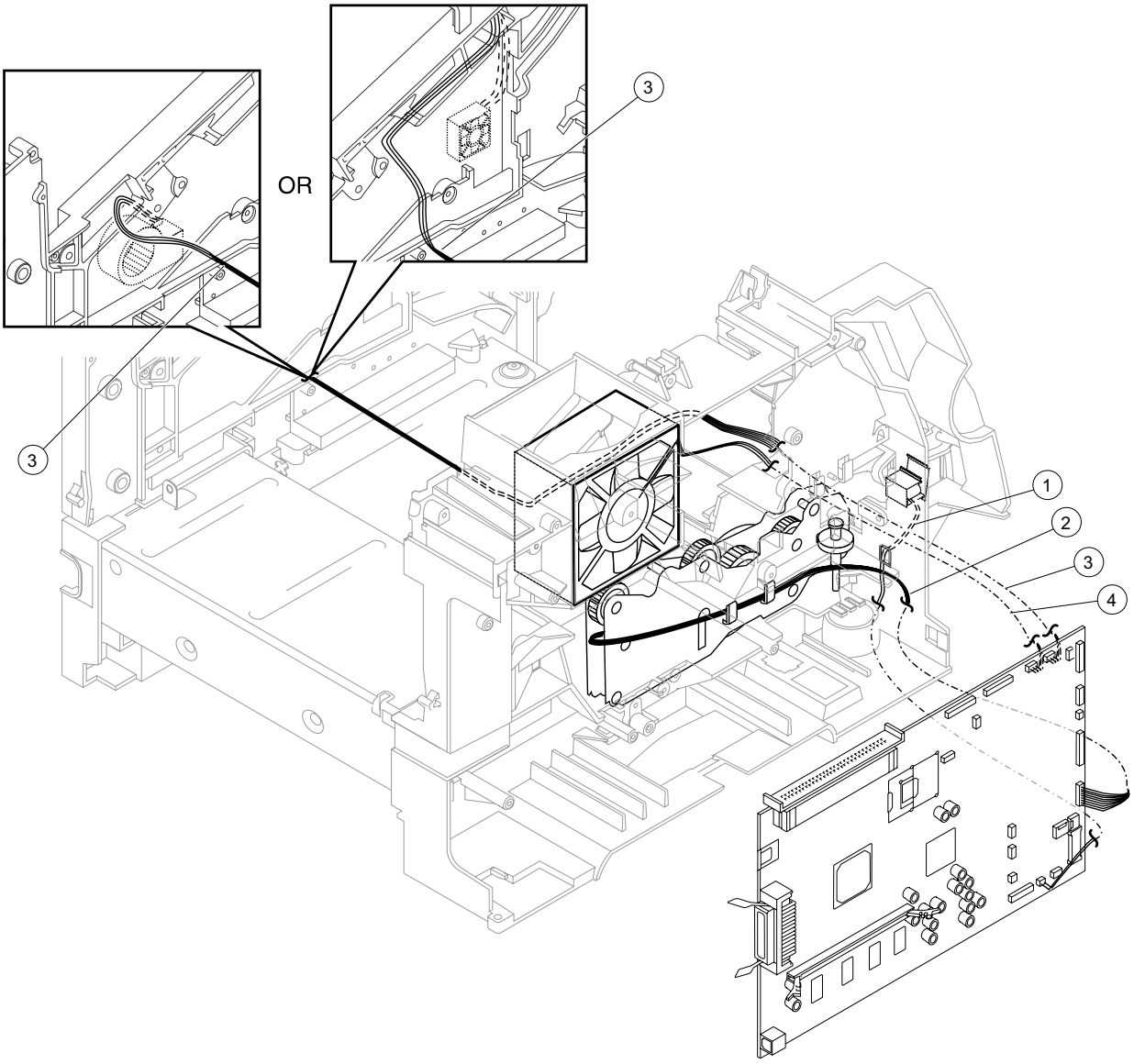
Assembly 21: Cabling diagrams 5



Assembly 21: Cabling diagrams 5

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
21—1	40X0083	1	1	Frame assembly with solenoid and cable
2	40X0159	1	1	Main drive motor cable assembly
3	40X0035	1	1	EP fan with cable—250 sheet, 000/010
3	40X0249	1	1	EP fan with cable—500 sheet, 200/210/400/410
4	40X0053	1	1	Main fan, 250 sheet
4	40X0054	1	1	Main fan, 500 sheet

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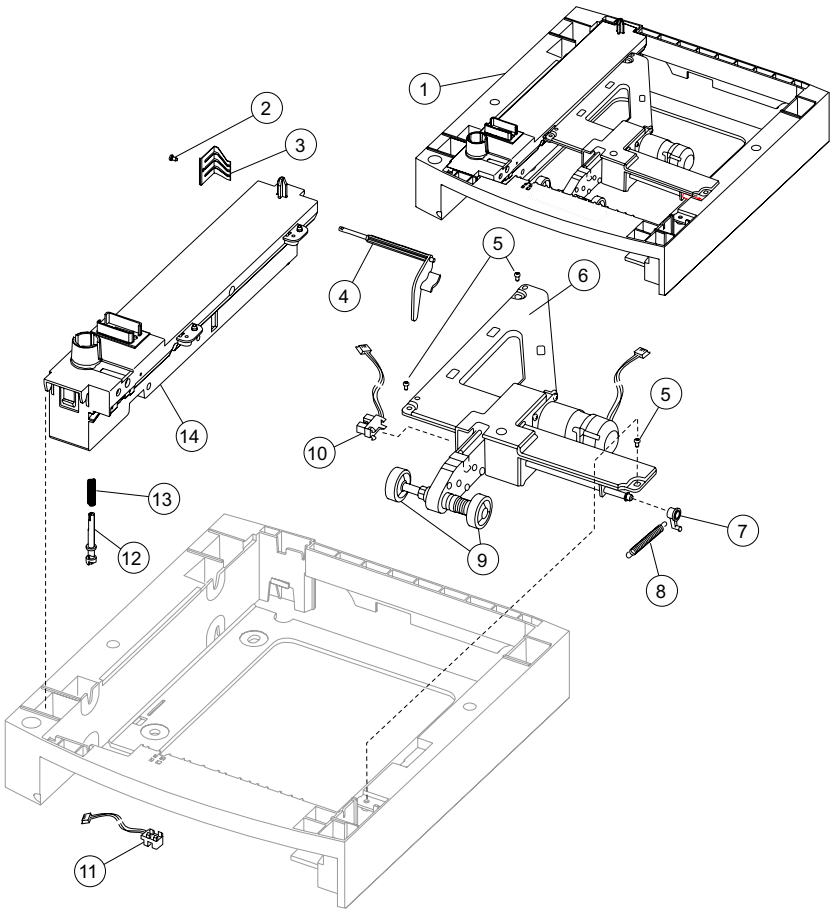
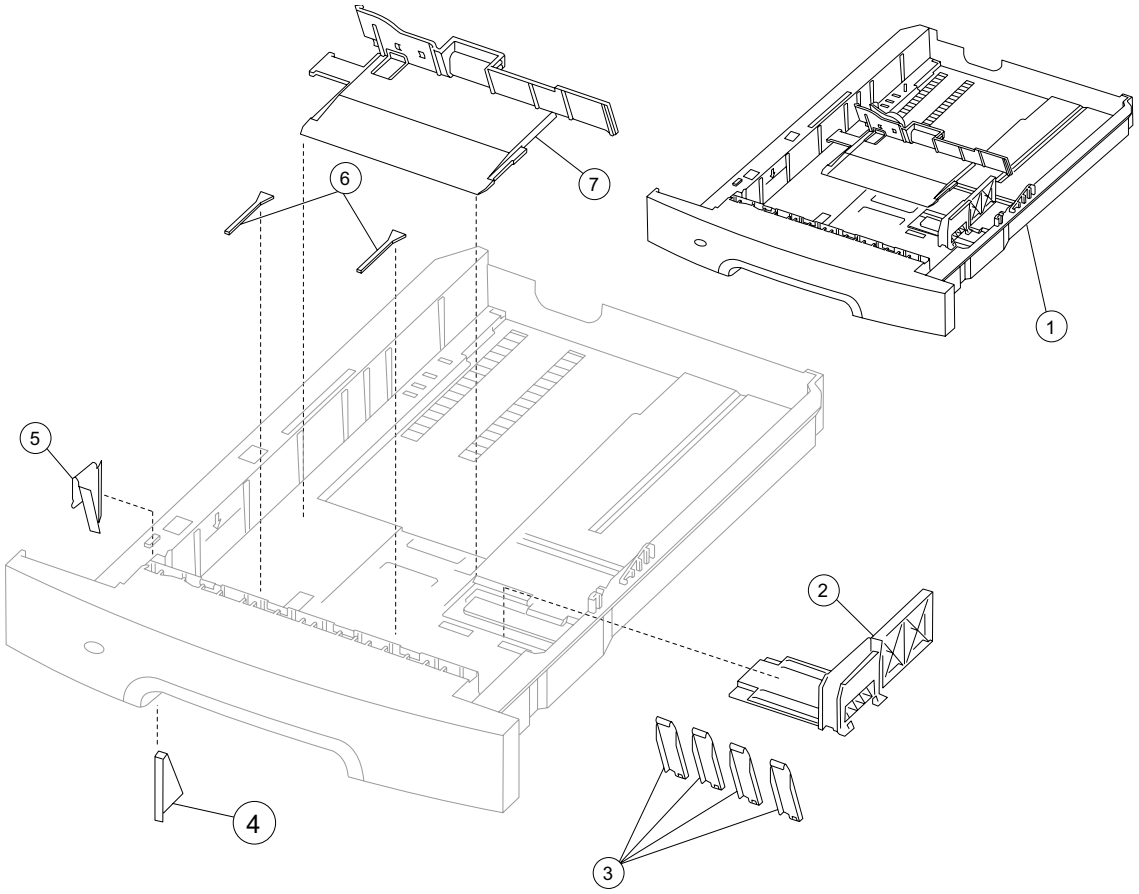
Assembly 22: Optional 250-sheet paper drawer



Asm-Index	Part number	Units/option	Units/kit or pkg	Description
22—1	56P4103	1	1	250-sheet paper drawer, complete assembly
2		1	1	Parts packet, screw (switch spring) (PP 99A0263)
3	99A0063	1	1	Switch activate spring
4	56P4129	1	1	Paper out arm—250-sheet
5		3	3	Parts packet, screw (auto comp mounting) (PP 99A0263)
5		4	4	Parts packet (PP 99A0263)
6	56P4126	1	1	Pick arm assembly
7	56P1228	1	1	Bellcrank—250-sheet paper tray
8	99A1929	2	1	Bellcrank spring—250-sheet paper tray
9	99A0070	2	2	Pick roll assembly
10	56P4128	1	1	Bin low sensor with cable
11	56P4127	1	1	Option pass thru sensor
12	99A0272	1	1	Drive shaft—250-sheet
13	99A0275	1	1	Power takeoff spring
14	56P4133	1	1	Stud assembly

Assembly 23: Optional 250-sheet paper tray



Asm-Index	Part number	Units/option	Units/kit or pkg	Description
23—1	56P4122	1	1	Tray assembly, option—250-sheet
2	56P4130	1	1	Side restraint—250-sheet tray
3	56P1279	1	4	Wear strips
4	56P4230	1	1	Plate—250 sheet pass thru
5	99A0121	1	1	Plate—250-sheet tray wear
6	99A0120	1	2	Restraint pad
7	56P4131	1	1	Back restraint—250-sheet tray

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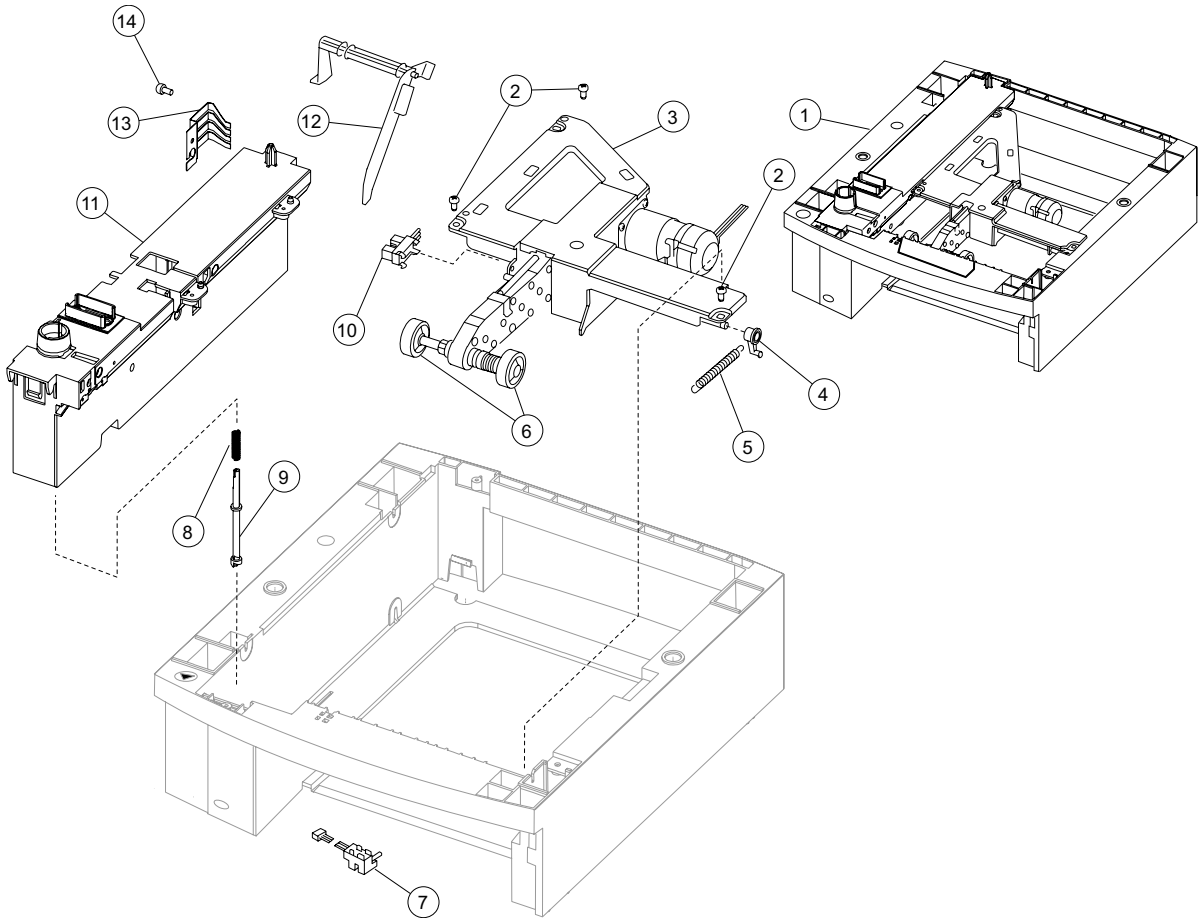
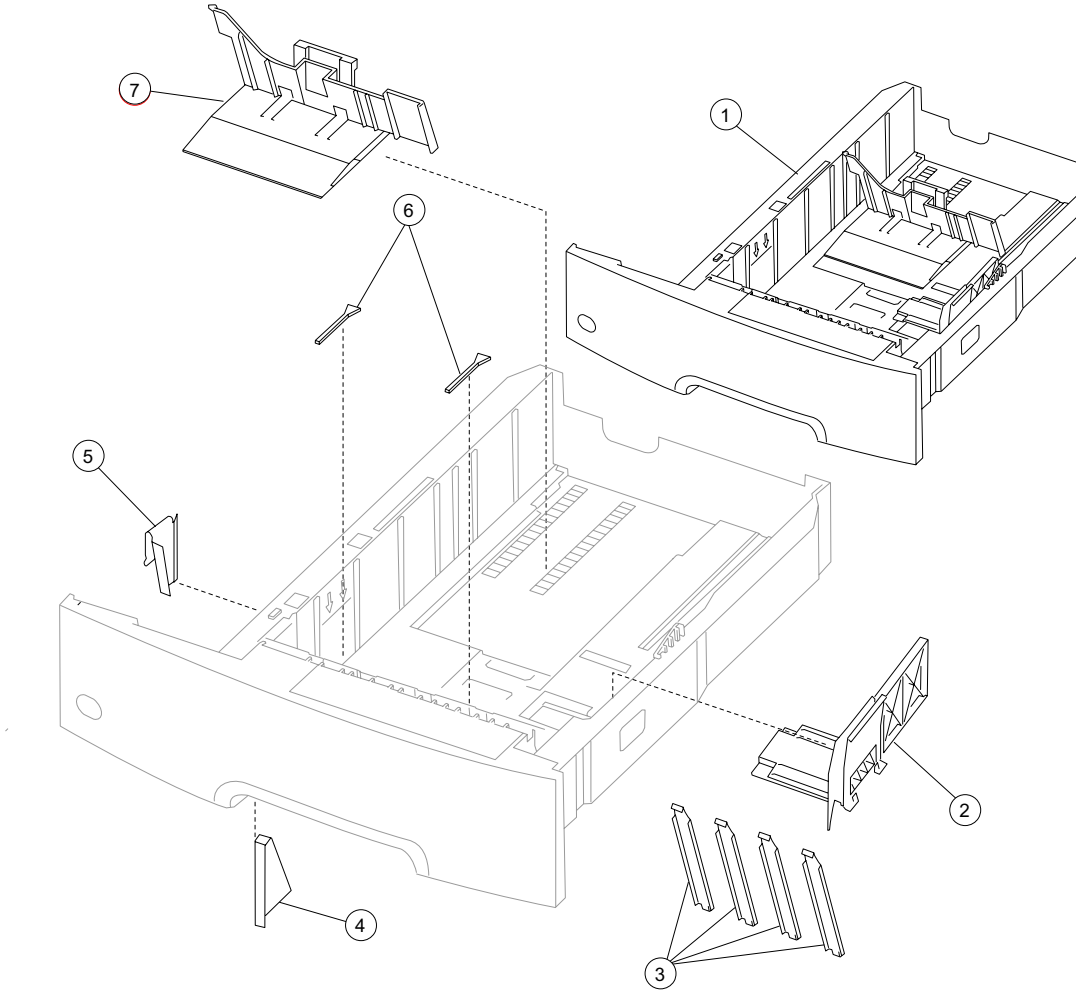
Assembly 24: Optional 500-sheet paper drawer



Asm-Index	Part number	Units/option	Units/kit or pkg	Description
24—1	56P4104	1	1	Drawer assembly, complete—500-sheet
2		3	3	Parts packet (auto comp mounting screw) (PP 99A0263)
3	56P4139	1	1	Pick arm assembly—500 sheet
4	56P1228	1	1	Bellcrank spring arm
5	56P2540	1	1	Bellcrank spring—500-sheet option tray
6	99A0070	1	2	Pick roll assembly
7	56P4127	1	1	Option pass thru sensor
8	99A0275	1	1	Power takeoff spring
9	99A0447	1	1	Drive shaft—500-sheet
10	56P4128	1	1	Bin low sensor with cable
11	56P4143	1	1	Base assembly, 500-sheet
12	56P4145	1	1	Paper out arm—500-sheet drawer
13	99A0063	1	1	Switch activate spring
14		1	1	Parts packet (screw) (PP 99A0263)

Assembly 25: Optional 500-sheet paper tray



Asm-Index	Part number	Units/option	Units/kit or pkg	Description
25—1	56P4150	1	1	Complete tray assembly—500-sheet
2	56P4137	1	1	Side restraint—500-sheet tray
3	99A0292	1	4	Wear strips
4	56P4196	1	1	Pass thru plate
5	99A0120	1	2	Restraint pad
6	56P4195	1	1	Wear plate—500 sheet
7	56P4147	1	1	Back restraint—500-sheet tray

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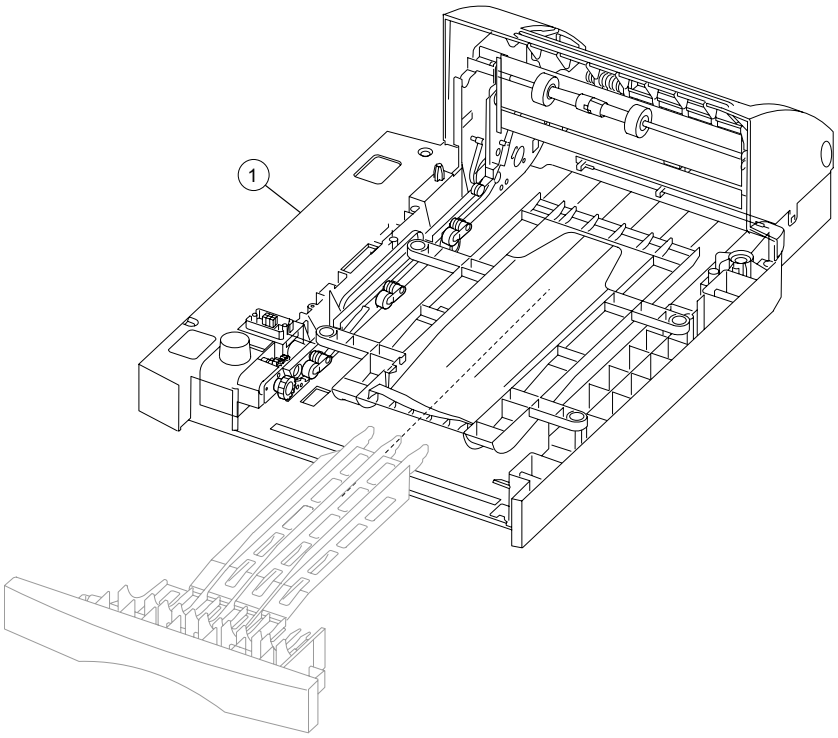
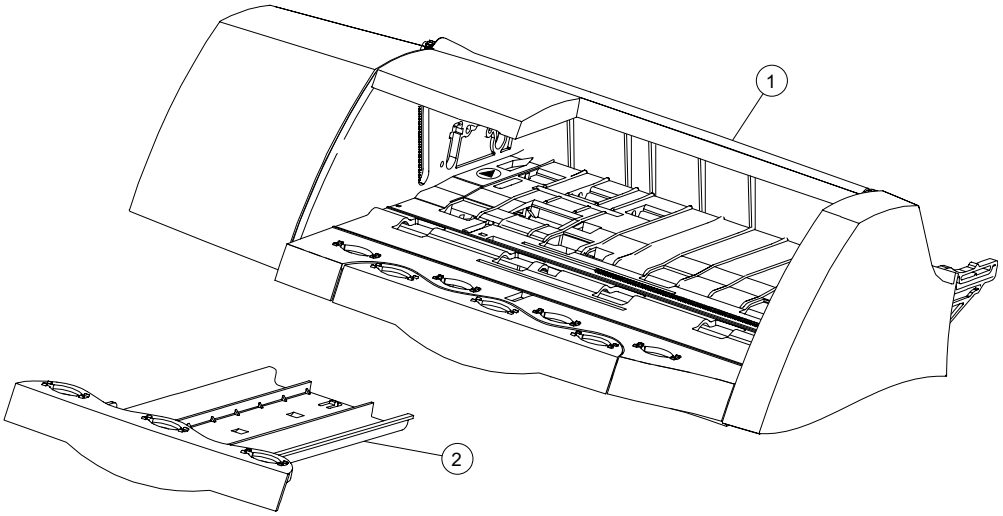
Assembly 26: Duplex option



Asm-Index	Part number	Units/option	Units/kit or pkg	Description
26—1	56P4100	1	1	Duplex assembly.—250-sheet
1	56P4102	1	1	Duplex assembly—500-sheet

Assembly 27: Envelope feeder



Asm-Index	Part number	Units/option	Units/kit or pkg	Description
27—1	56P4107	1	1	Complete envelope option
2	56P4229	1	1	Slide out support

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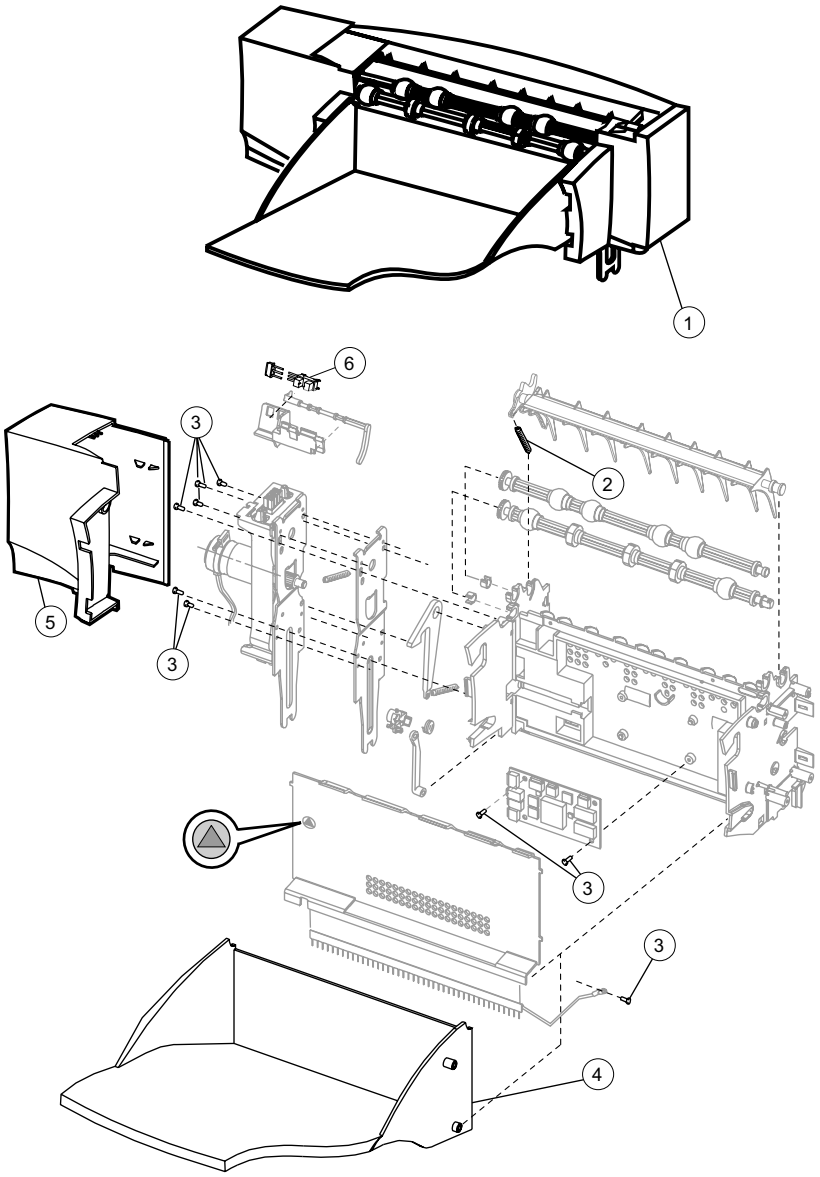
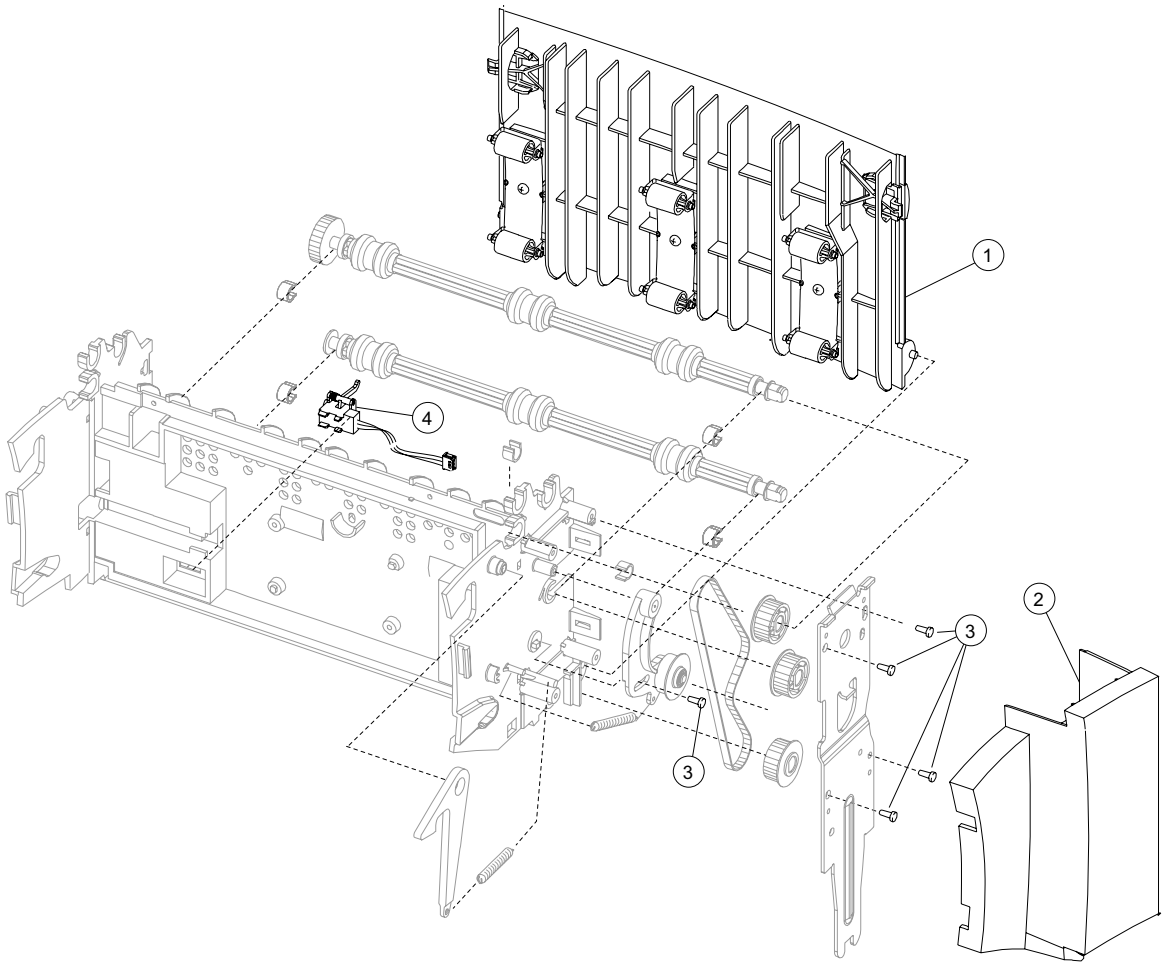
Assembly 28: Output expander 1



Asm-Index	Part number	Units/option	Units/kit or pkg	Description
28—1	56P4111	1	1	Complete output expander assembly
2	99A0104	1	1	Upper diverter spring
3		1	11	Parts packet (PP 99A0263)
4	56P4198	1	1	Output expander tray
5	56P4163	1	1	Left side cover
6	56P4197	1	1	Bin full dual sensor upper stacker assembly

Assembly 29: Output expander 2



Asm-Index	Part number	Units/option	Units/kit or pkg	Description
29—1	56P4206	1	1	Rear access door assembly
2	56P4235	1	1	Right side cover
3				Parts packet, screw (PP 99A0263)
4	56P4194	1	1	Output expander pass thru sensor

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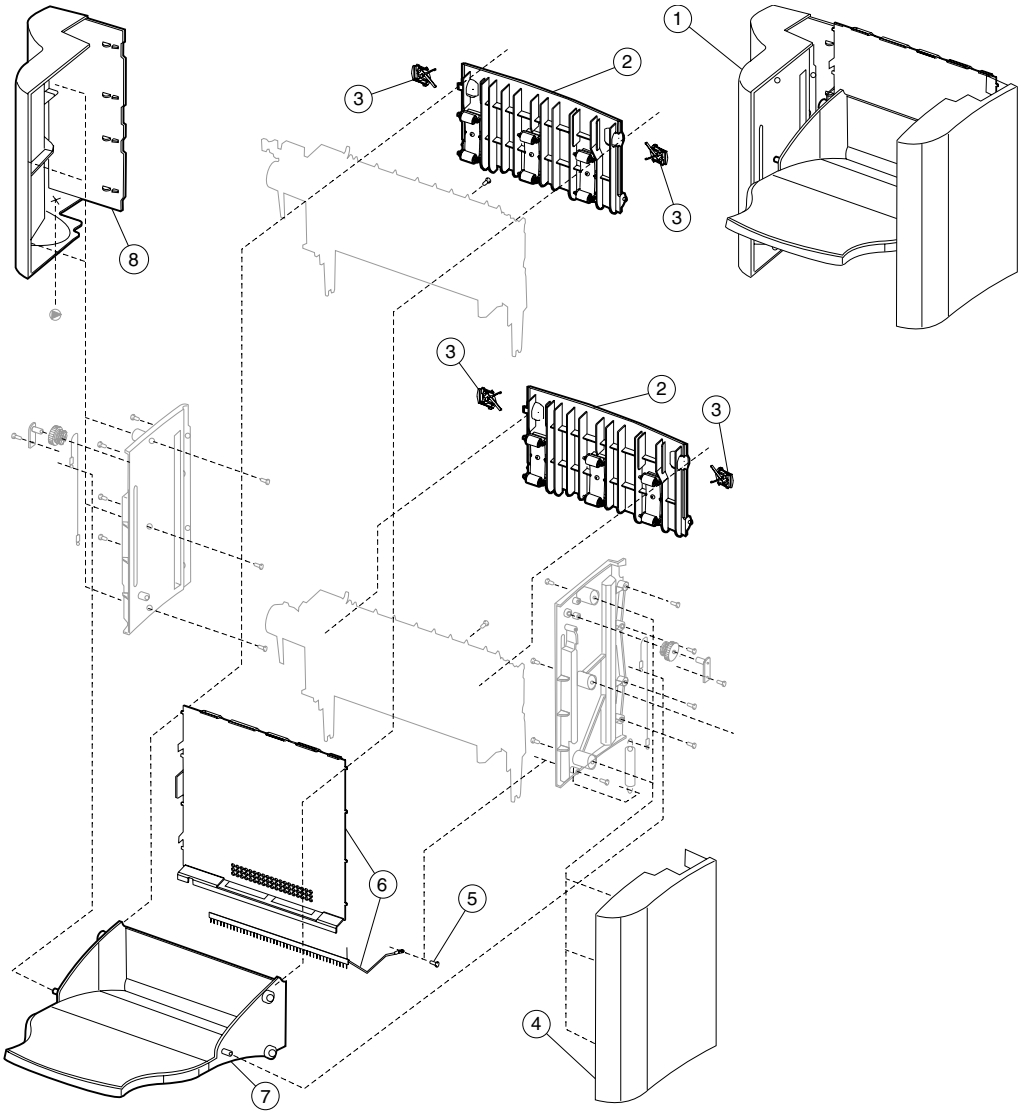
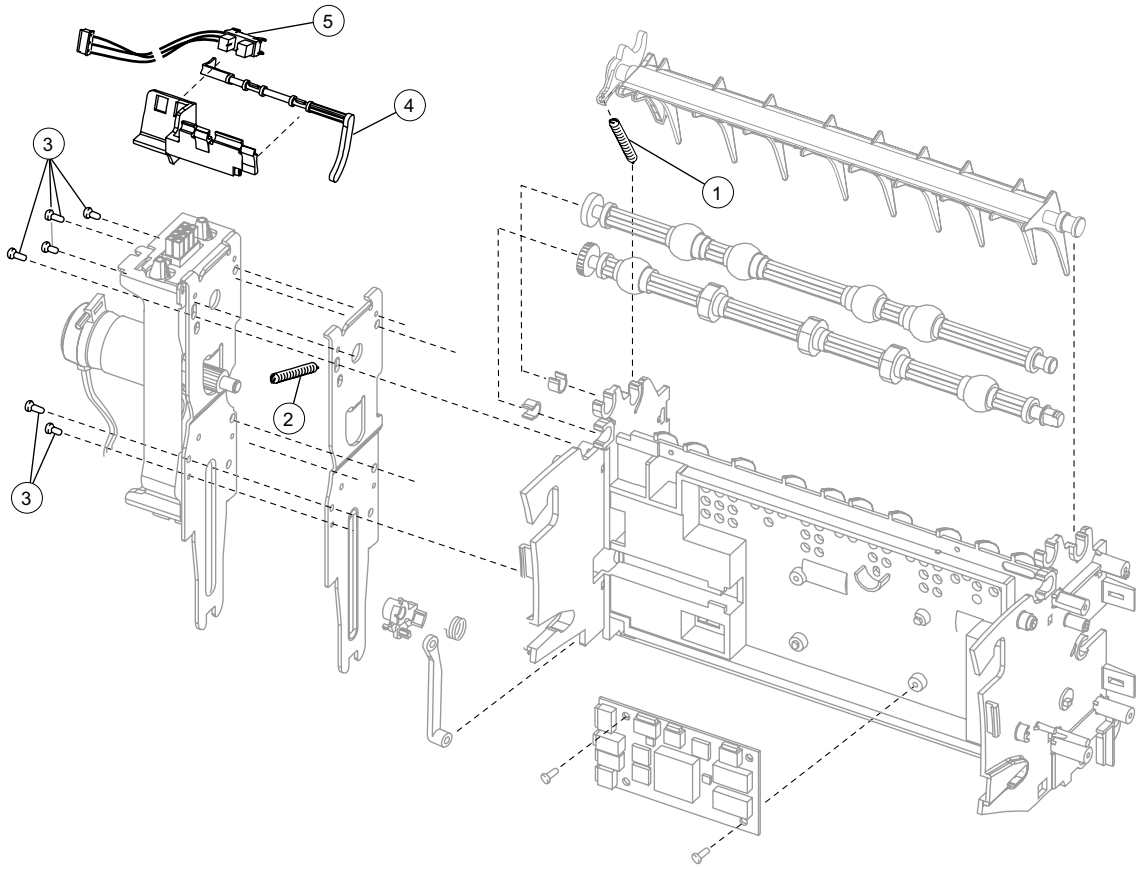
Assembly 30: High-capacity output expander 1



Asm-Index	Part number	Units/option	Units/kit or pkg	Description
30—1	56P4112		1	Complete high-capacity output expander
2	56P4206	2	1	Rear access door assembly
3	56P4211	4	1	Rear door latch
4	56P4204	1	1	Right cover
6	56P4205	1	1	Front cover
7	56P4207	1	1	Output tray assembly
8	56P4203	1	1	Left cover
NS	56P4208	1	1	Tray sensing switch assembly

Assembly 31: High-capacity output expander 2



Asm-Index	Part number	Units/option	Units/kit or pkg	Description
31—1	99A0104	2	1	Upper diverter spring
2	99A0415	1	1	Swing arm spring
3			31	Parts packet (PP 99A0263)
4	56P4212	1	1	Bin full dual sensor upper stacker assembly flag
5	56P4197	1	1	Bin full dual sensor upper stacker assembly
NS	56P4210	2	1	Output spring

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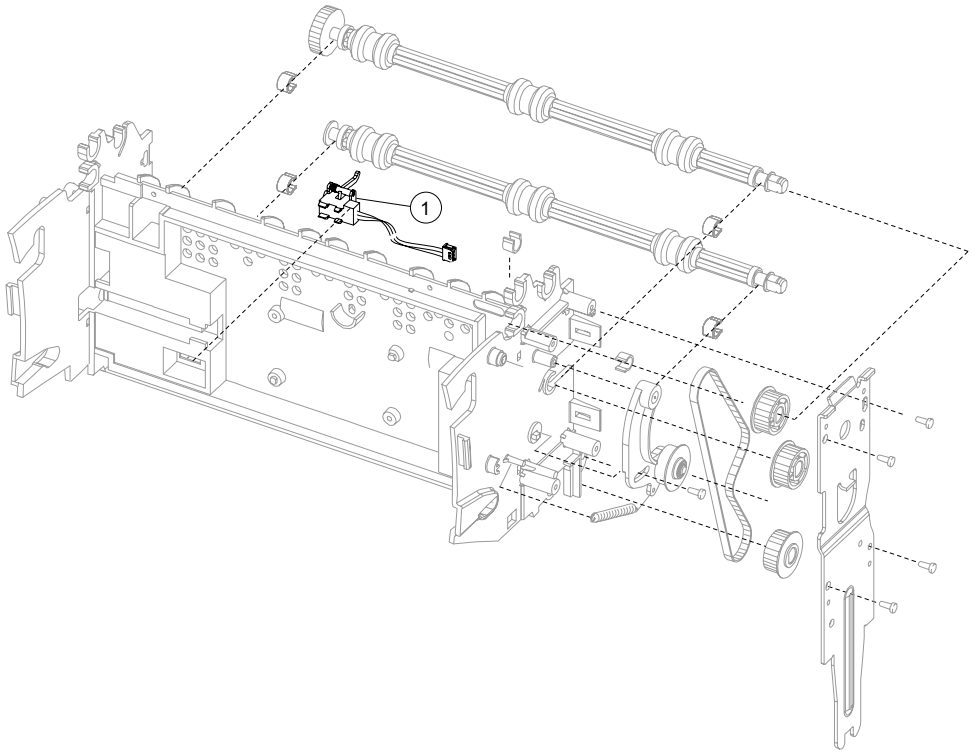
Assembly 32: High-capacity output expander 3



Assembly 32: High-capacity output expander 3

Asm-Index	Part number	Units/option	Units/kit or pkg	Description
32—1	56P4194	2	1	Stacker pass thru sensor

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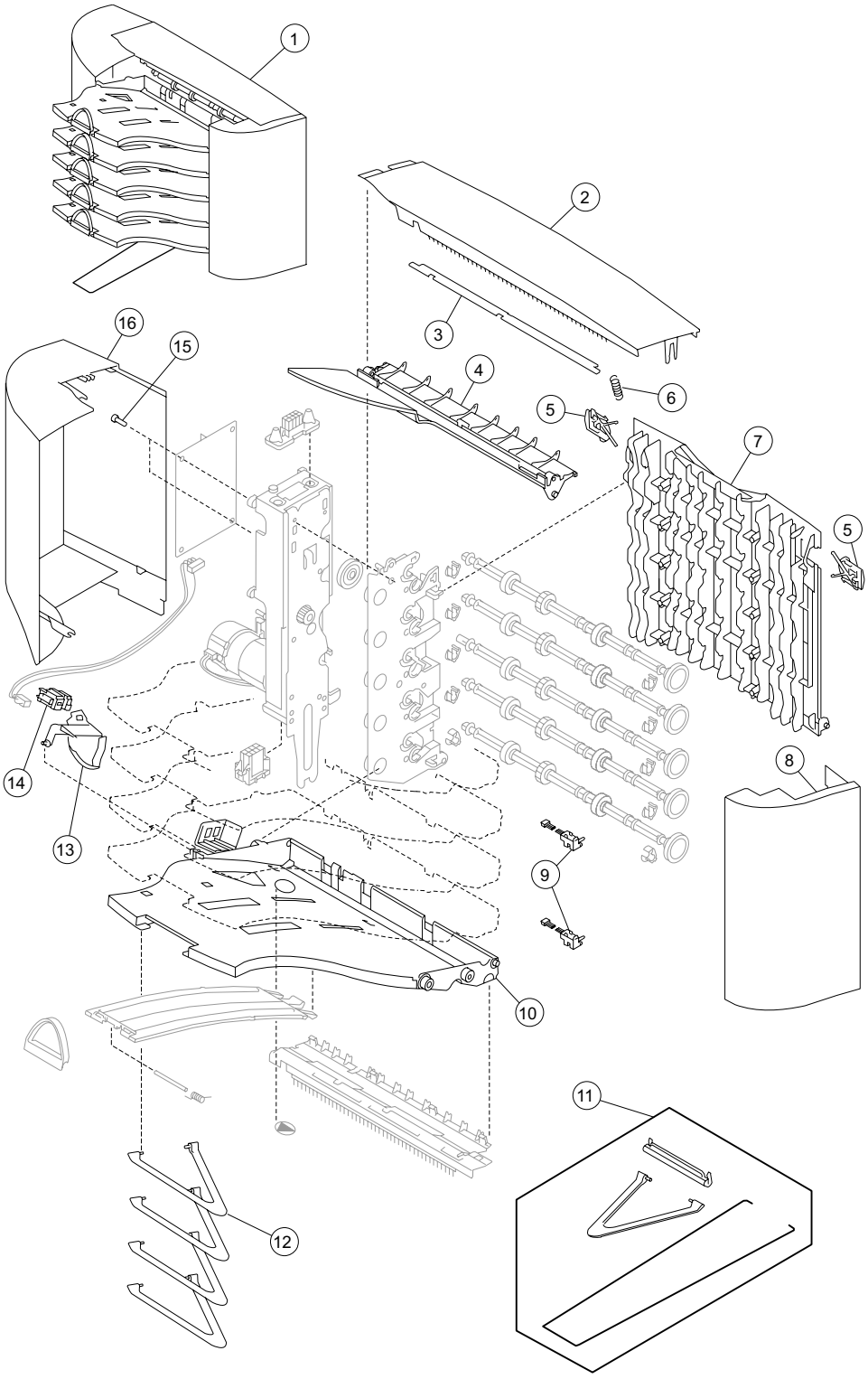
Assembly 33: 5-bin mailbox 1



Assembly 33: 5-bin mailbox 1

Asm-Index	Part number	Units/option	Units/kit or pkg	Description
33—1	56P4110	1		Complete 5-bin mailbox option
2	56P4176	1	1	Redrive cap cover
3	56P4180	1	1	Wire cover
4	56P4181	1	1	Top bin cover
5	99A1785	2	2	Rear access door latch
6	99A0104	1	1	Upper diverter spring
7	56P4183	1	1	Rear access door
8	56P4178	1	1	Right side cover
9	56P4190	2	1	5-bin mailbox pass thru sensor
10	56P4182	5	1	Paper cap tray
11	56P4191	1	1	5-bin mailbox assembly kit
12		1	1	5-bin mailbox assembly kit, order 56P4191
13	56P4186	5	1	Bin full flag
14	56P4188	5	1	Dual paper height sensor
15				Parts packet (board mounting screw) (PP 99A0263)
16	56P4179	1	1	Left side cover

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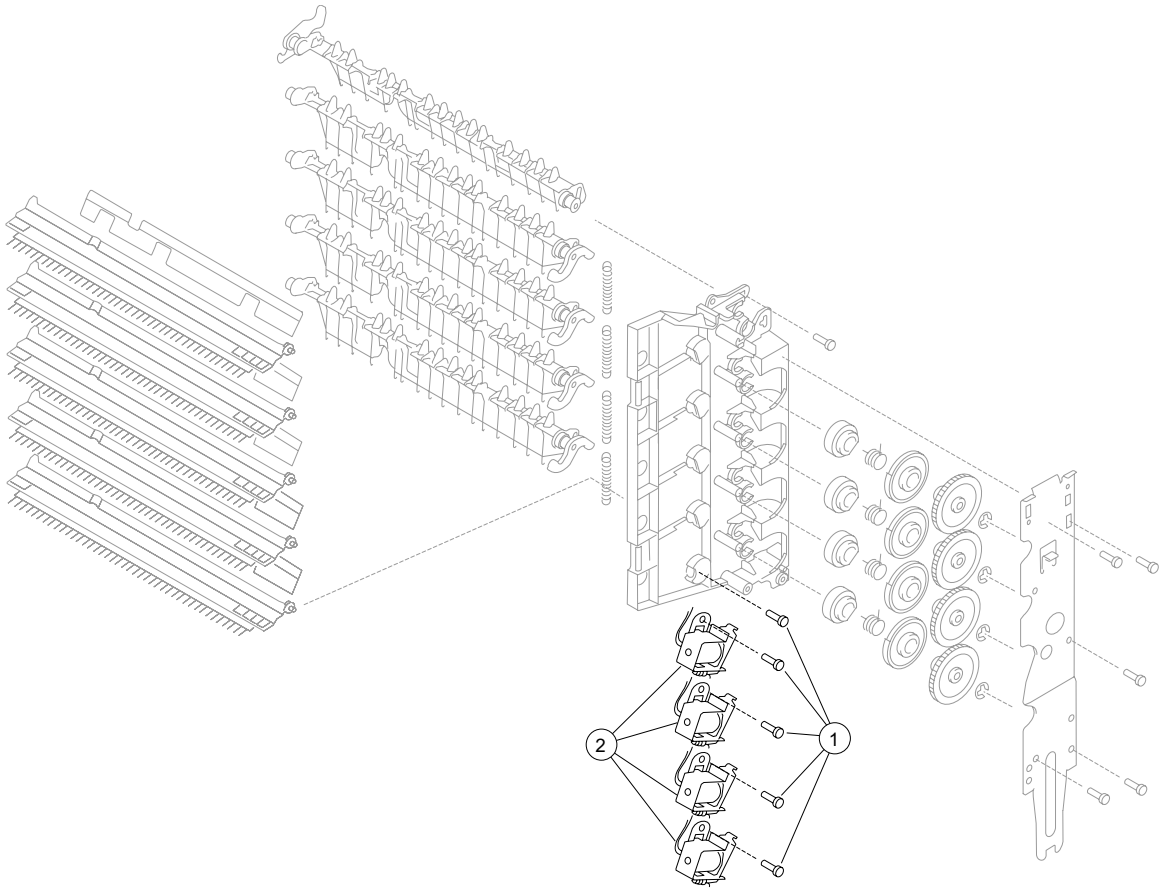
Assembly 34: 5-bin mailbox 2



Assembly 34 (cont.): 5-bin mailbox 2

Asm-Index	Part number	Units/option	Units/kit or pkg	Description
34—1			12	Parts packet (board mounting screw) (PP 99A0263)
2	56P4185	4	1	Diverter solenoid

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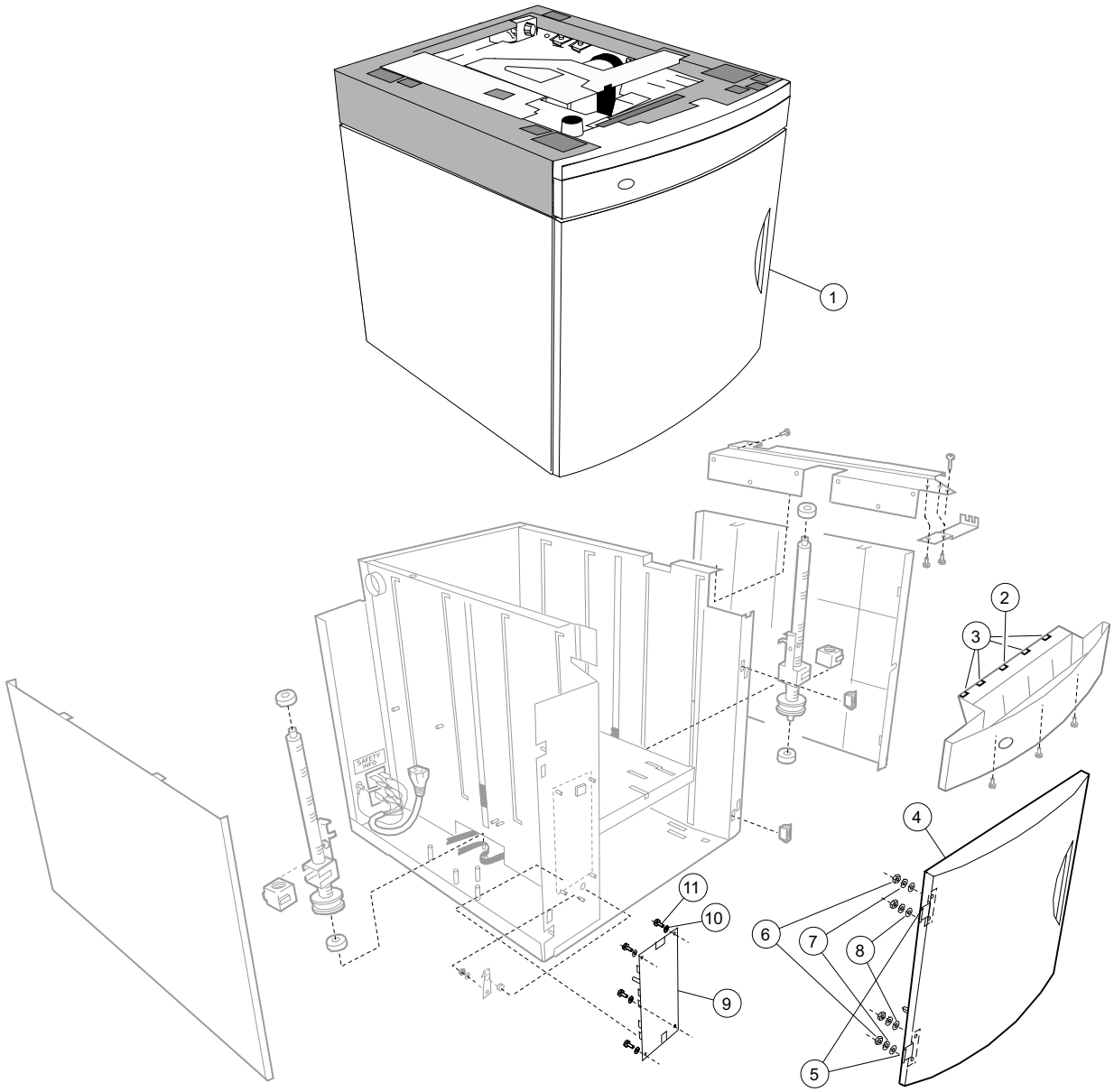
Assembly 35: High-capacity feeder 1



Assembly 35: High capacity feeder 1

Asm-Index	Part number	Units/option	Units/kit or pkg	Description
35—1	56P4105	1	1	Complete option assembly (letter)
1	56P4106	1	1	Complete option assembly (A4)
2	99A1818	1	1	Wear dimple strip
3	99A0681	4	1	Wear strip
4	56P4155	1	1	Front door assembly
5	56P4157	1	2	Door hinge
6		4	1	Parts packet (6-32 hinge mounting nut) (PP 99A0676)
7		4	1	Parts packet (hinge mounting flat washer) (PP 99A0677)
8		4	1	Parts packet (hinge mounting star washer) (PP 99A0677)
9	56P4142	1	1	2000-sheet option control card assembly
10		4	4	Parts packet (card asm. mounting) (PP 99A0675)
11		4	4	Parts packet (card asm. mounting screw) (PP 99A0675)
11	99A0658	2	2	Door magnet

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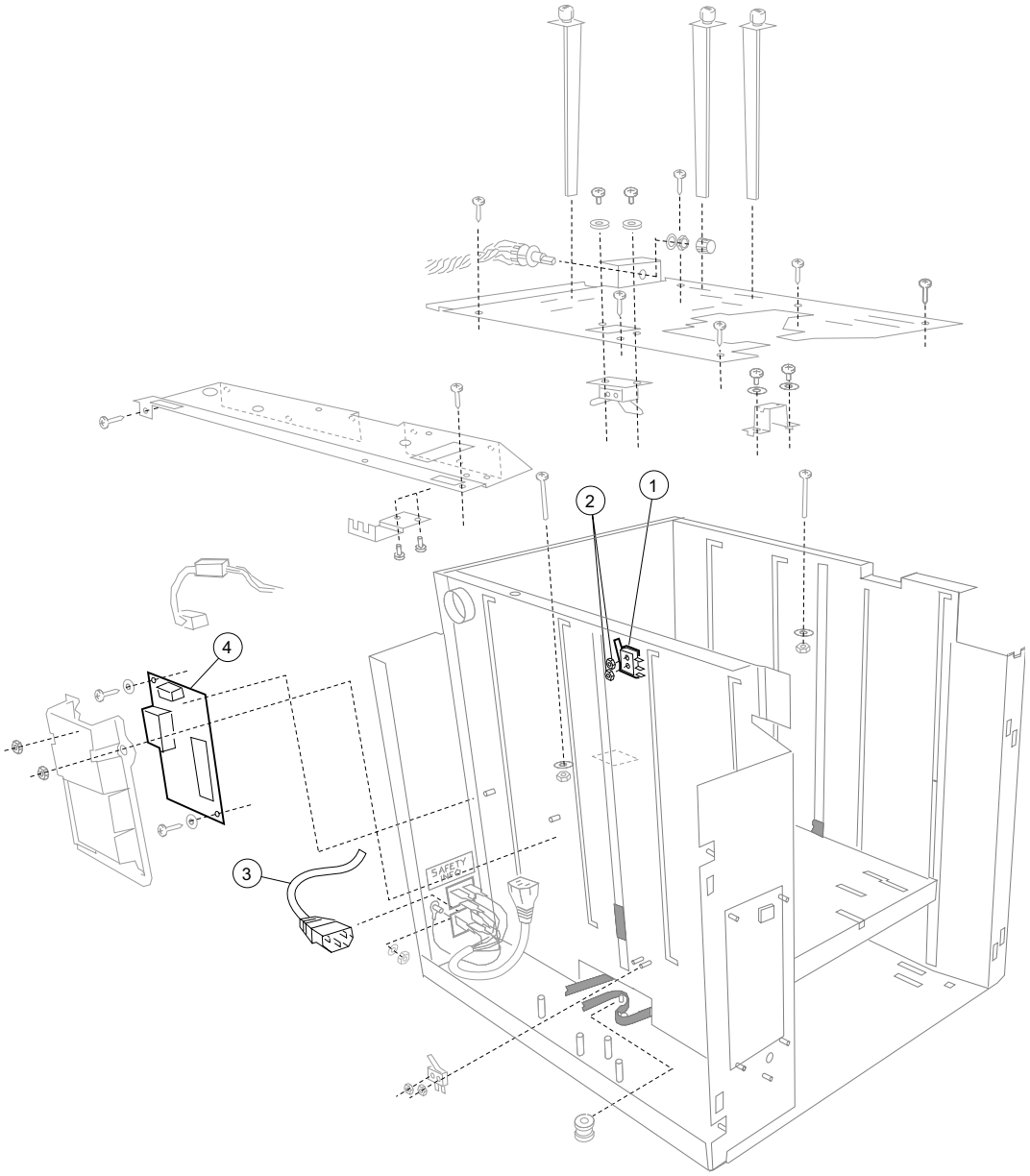
Assembly 36: High-capacity feeder 2



Assembly 36: High-capacity feeder 2

Asm-Index	Part number	Units/option	Units/kit or pkg	Description
36—1	99A0654	1	1	Paper low switch
2				Parts packet (nuts) (PP 99A0676)
3	99A1808	1	1	AC external jumper cord
4	99A0667	1	1	Power supply board

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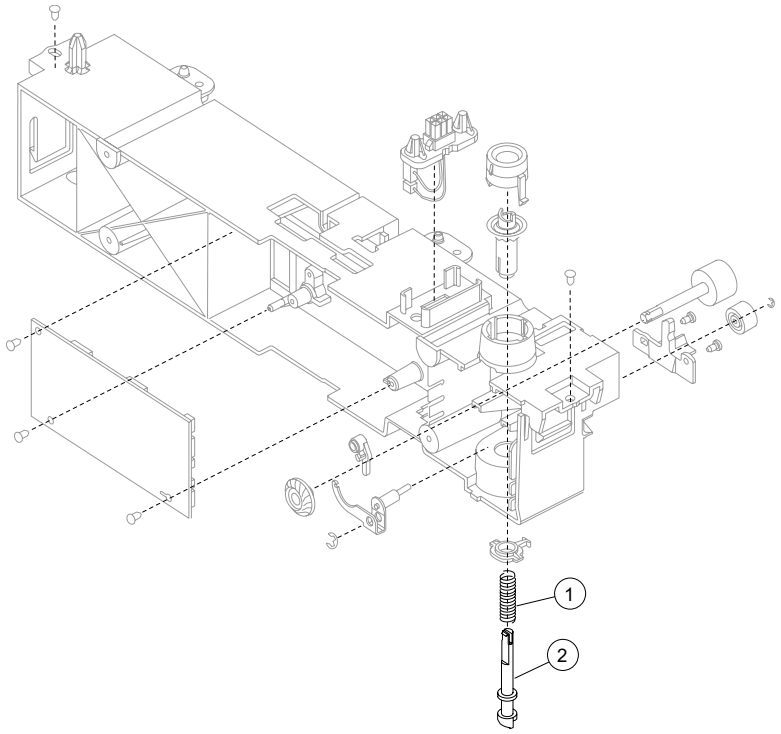
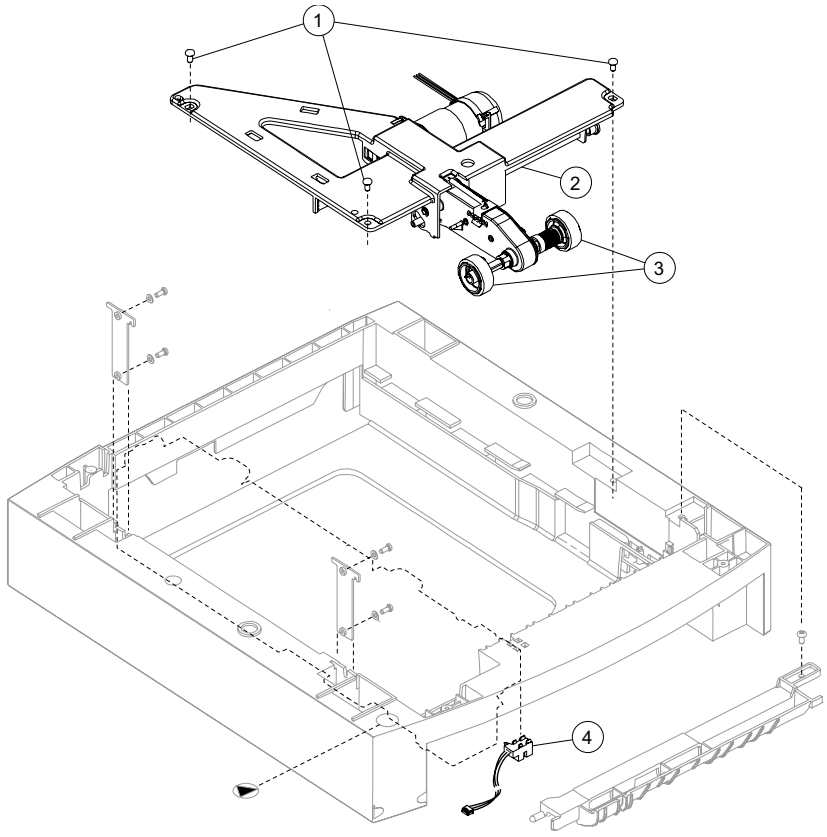
Assembly 37: High-capacity feeder 4



Asm-Index	Part number	Units/option	Units/kit or pkg	Description
37—1	99A0275	1	1	Power takeoff spring
2	99A0272	1	1	Drive shaft—250-sheet

Assembly 38: High-capacity feeder 5



Asm-Index	Part number	Units/option	Units/kit or pkg	Description
38—1		3		Parts packet (auto comp assembly mounting screw) (PP 99A0263)
2	56P4162	1	1	Pick arm assembly—2000-sheet
3	99A0070	2	2	Pick roll assembly
4	56P4127	1	1	Option pass thru sensor

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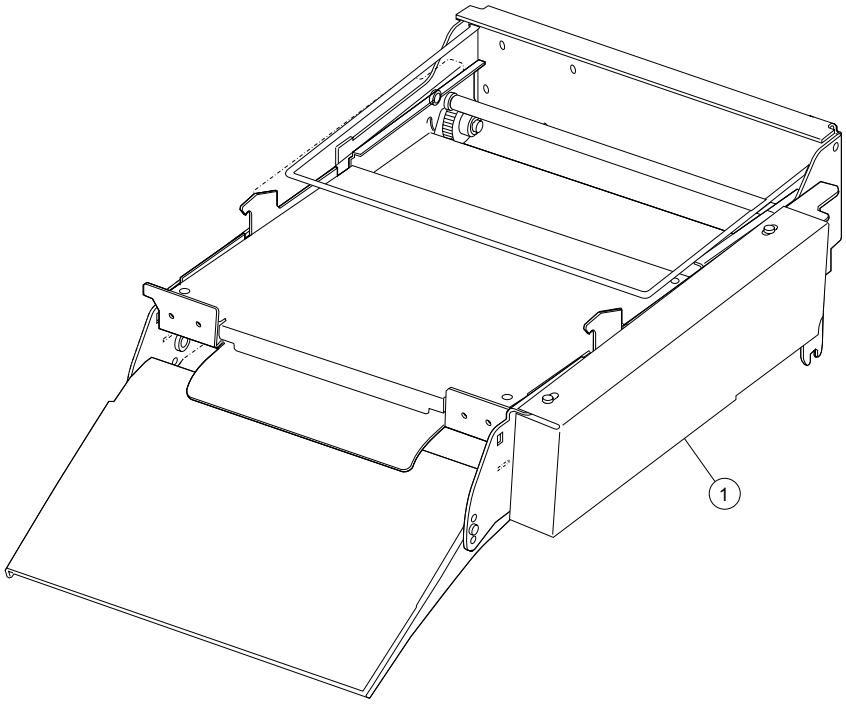
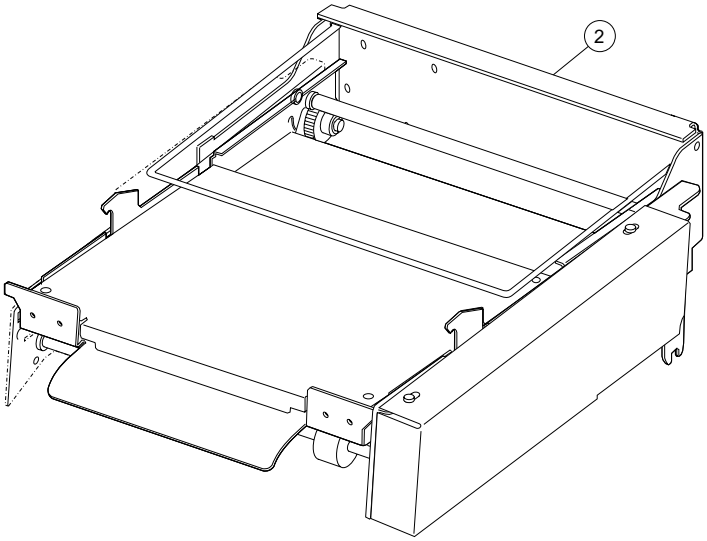
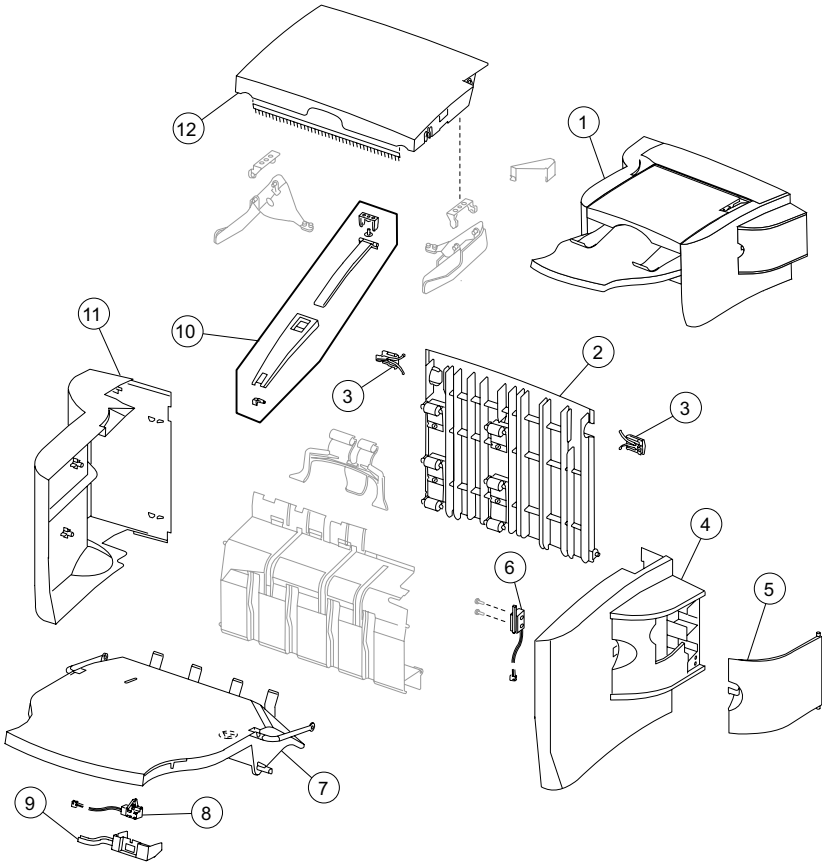
Assembly 39: Kiosk—vertical and horizontal paper adapters





Asm-Index	Part number	Units/option	Units/kit or pkg	Description
39—1	56P4108		1	Complete vertical kiosk option
2	56P4109		1	Complete horizontal kiosk option

Assembly 40: StapleSmart finisher I



Asm-Index	Part number	Units/option	Units/kit or pkg	Description
40—1	56P4117		1	Complete option
2	56P4221	1	1	Rear access door
3	99A1785	2	1	Rear access door latch
4	56P2114	1	1	Right base assembly cover
5	56P2116	1	1	Stapler access cover
6	56P2115	1	1	Stapler access door switch assembly
7	56P4222	1	1	Output assembly tray
7	99A2542	1	1	Output tray
8	56P4223	1	1	Stapler bin empty sensor
9	56P4224	1	1	Stapler bin empty sensor cover
10	56P4219	1	1	Stacking bail kit
11	56P4213	1	1	Left base assembly cover
12	56P4218	1	1	Top assembly cover

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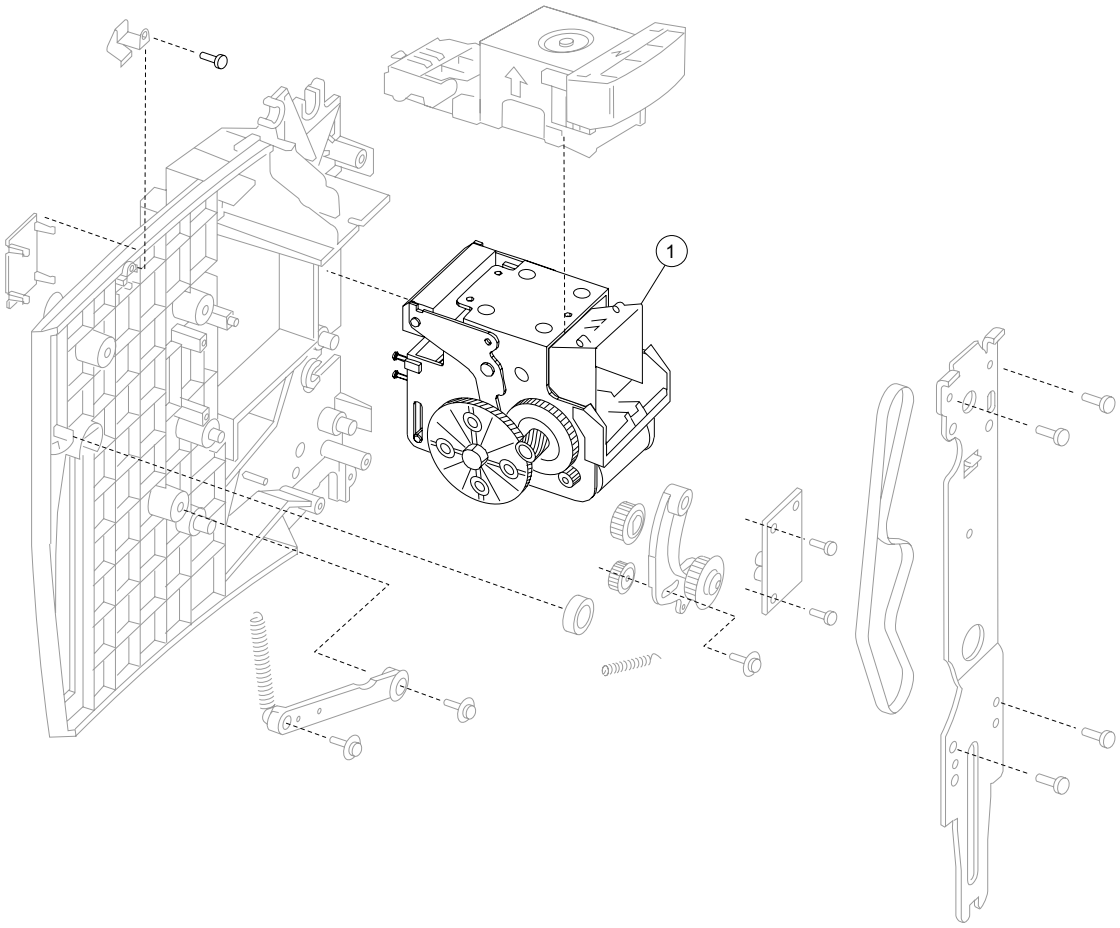
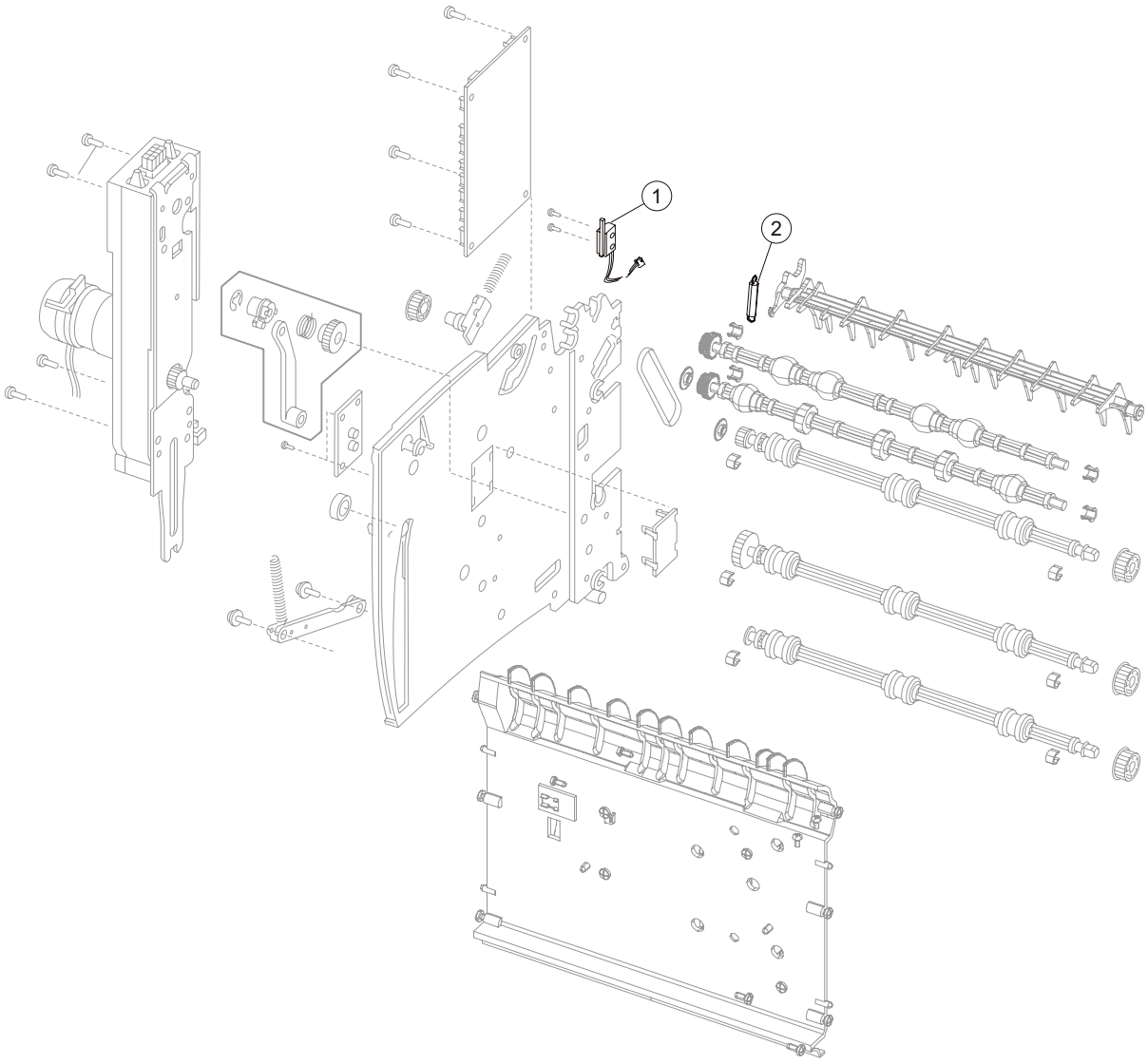
Assembly 41: StapleSmart finisher 2



Asm-Index	Part number	Units/option	Units/kit or pkg	Description
41—1	56P4225	1	1	Stapler assembly

Assembly 42: StapleSmart finisher 3



Asm-Index	Part number	Units/option	Units/kit or pkg	Description
42—1	56P4226	1	1	Switch assembly, top cover open
2	99A0104	1	1	Spring, upper diverter

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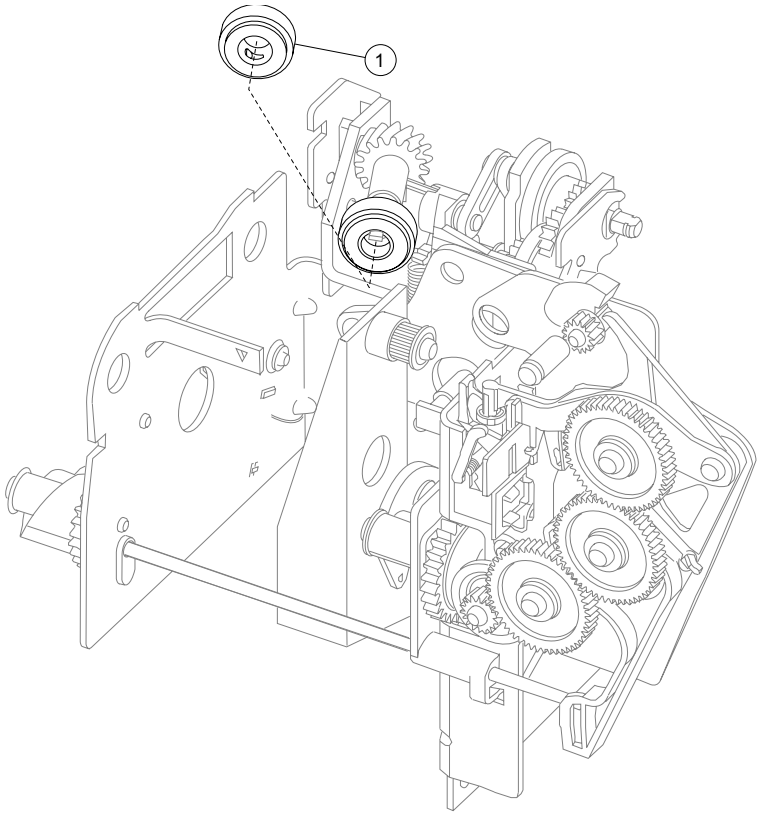
Assembly 43: StapleSmart finisher 4



Asm-Index	Part number	Units/option	Units/kit or pkg	Description
43—1	56P4228	1	1	StapleSmart wheels maintenance kit

Assembly 44: Options

Asm-Index	Part number	Units/option	Units/kit or pkg	Description
NS	40X1508	1	1	128MB memory option
NS	40X1509	1	1	256MB memory option
NS	40X1510	1	1	512MB memory option
NS	40X1564	1	1	32MB Flash card
NS	40X1565	1	1	64MB Flash card
NS	40X0198	1	1	Bar code card assembly
NS	40X0248	1	1	Cx/Tx card assembly
NS	40X0268	1	1	IPDS/SCS card assembly
NS	40X0199	1	1	PrintCryption card assembly
NS	40X0292		1	Hard disk with adapter—20+GB
NS	40X0252	1	1	9-pin to 9-pin cable assembly
NS	40X0250	1	1	9-pin to Twinax cable
NS	40X0251	1	1	9-pin to Coax (BNC) cable
NS	40X0265	1	1	PRESCRIBE card assembly
NS	40X0171	1	1	Cartridge shipping package, empty
NS	40X1375	1	1	MarkNet 8000 Fast Ethernet
NS	40X1376	1	1	MarkNet 8020 Gigabit Ethernet
NS	40X1377	1	1	MarkNet 8030 Fiber Ethernet
NS	40X1378	1	1	MarkNet 8050 wireless, US
NS	40X1562	1	1	MarkNet 8050 wireless, non-US
NS	40X0200	1	1	ThinPrint card assembly
NS	40X0291	1	1	Parallel 1284-B interface card
NS	40X0290	1	1	RS232C serial interface card
NS	56P4116	1	1	Universal adjustable tray assembly—400-sheet
NS	40X0266	1	1	Single-byte forms card assembly
NS	40X0267	1	1	Double-byte forms card assembly
NS	40X1513	1	1	Simplified Chinese font card
NS	40X1514	1	1	Traditional Chinese font card
NS	40X1515	1	1	Korean font card
NS	40X1512	1	1	Japanese font card
NS	40X0179	1	1	Nyogel 744 grease packet
NS	7375084	1	1	Relocation kit—250/250-sheet printer
NS	7375085	1	1	Relocation kit—500/500-sheet printer

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Appendix A—Options and features

CAUTION: If you are installing memory or option cards sometime after setting up the printer, turn the printer off and unplug the power cord before continuing.

Installing input options

Order of installation

Floor-mounted configurations require additional furniture. You must use either a printer stand or printer base if you are using a 2000-sheet drawer, a duplex unit and an input option, or more than one input option. If you purchased an MFP that scans, copies, and faxes, you may need additional furniture. More information is available on our Lexmark Web site at **www.lexmark.com/multifunction printers**.

Install the printer and any options you have purchased in the following order:

CAUTION: If you are installing options after setting up the printer, turn the printer off and unplug the power cord before continuing.

- Printer stand or printer base
- 2000-sheet drawer
- 250-sheet or 500-sheet drawer
- Duplex unit
- Printer

CAUTION: The printer requires two people to lift it safely.

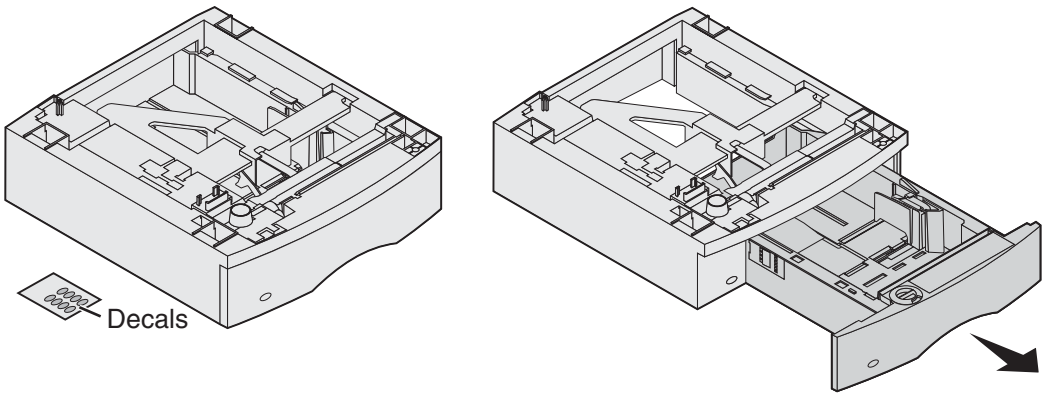
For information on installing a printer stand, printer base, or 2000-sheet drawer, see the instructions included with the option.

Installing a 250-sheet or 500-sheet drawer

Optional drawers attach under the printer and optional duplex unit. The printer automatically recognizes any drawer that is installed.

A drawer consists of a tray and a support unit. The 250-sheet drawer and the 500-sheet drawer are installed the same way.

1. Remove the tray from the support unit. Remove all packing material and tape from both the support unit and the tray.



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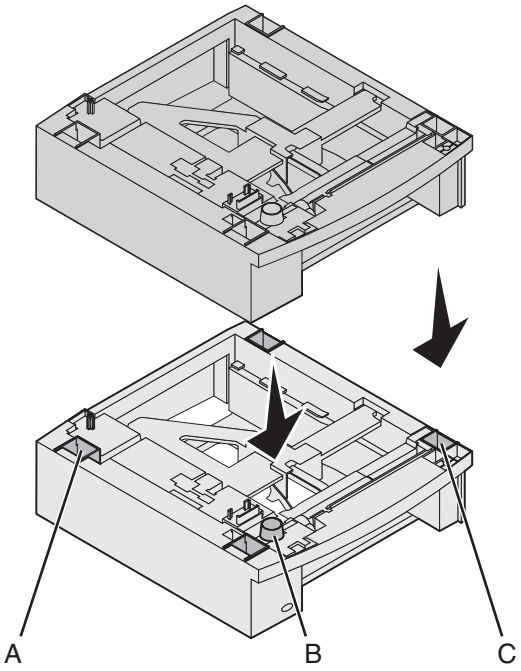
2. Place the support unit on top of any previously installed drawers, or the table or printer cabinet where you plan to use the printer.

The tab (A), round peg (B), and square holes (C) on top of any drawer help you position the support unit so the edges are aligned properly. Make sure the support unit is securely in place.



3. Attach another optional drawer, a duplex unit, or the printer.

You can attach a label to the trays to indicate the tray number.

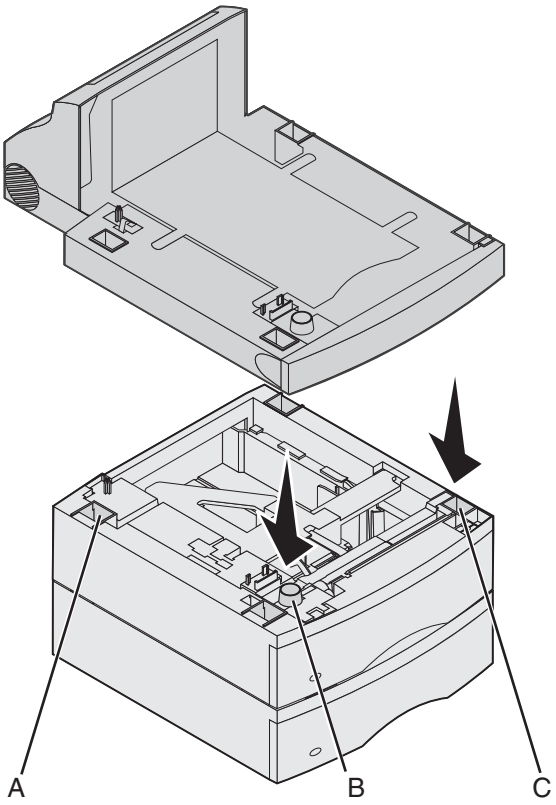
Installing a duplex unit

The duplex unit attaches under the printer, below the standard tray and above any drawers.

Note: Two optional duplex units are available. The 250-sheet duplex unit only works with printers that have a 250-sheet standard tray, and the 500-sheet duplex unit only works with printers that have a 500-sheet standard tray. Make sure you have the appropriate duplex unit for the tray size installed in the printer.

1. Place the duplex unit on top of any installed drawers or the table or printer cabinet where you plan to use the printer.

   The tab (A), round peg (B), and square holes (C) on top of any drawer help you position the duplex unit so the edges are aligned properly. Make sure it is securely in place.



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Installing memory or option cards

CAUTION: If you are installing memory or option cards sometime after setting up the printer, turn the printer off and unplug the power cord before continuing.

You can customize the printer memory capacity and connectivity by adding optional cards. The instructions in this section help you install any of the following options:

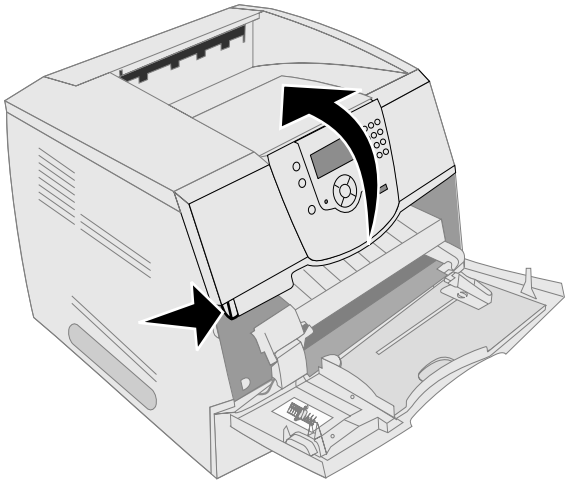
- Memory cards
  - Printer memory
  - Flash memory
- Firmware cards
  - Bar Code
  - IPDS and SCS/TNe
  - PrintCryption
- Other options
  - Printer hard disk
  - RS-232 serial interface card
  - Parallel 1284-C interface card
  - MarkNet N8000 series internal print servers (also called internal network adapters or INAs)

Accessing the printer system board

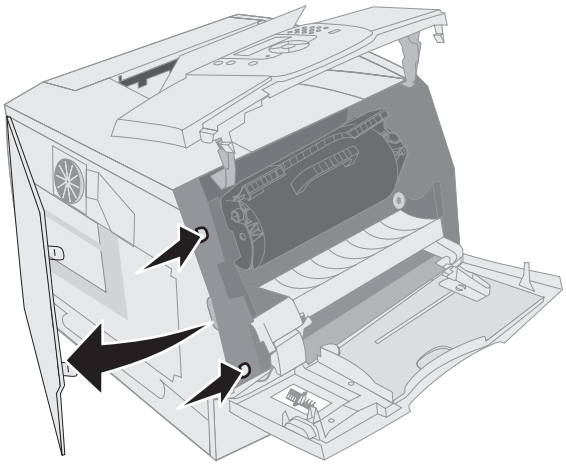
You must access the printer system board to install printer memory, flash memory, a firmware card, or an option card.

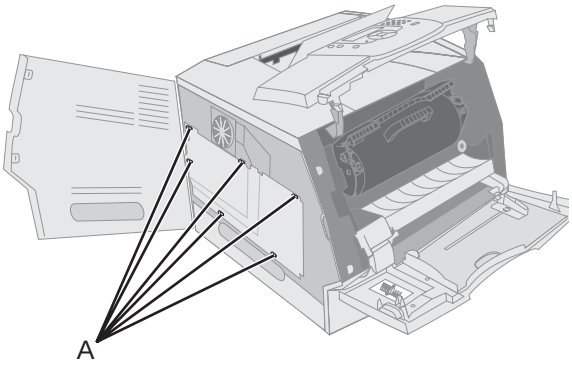
Note: Use a Phillips screwdriver to remove the system board access cover.

1. Push the release latch, and lower the multipurpose feeder.
2. Push the release latch, and open the top front cover.



3. Press both side door latches, and open the side door.
4. Loosen, but do not remove, the six screws (A) on the shield.





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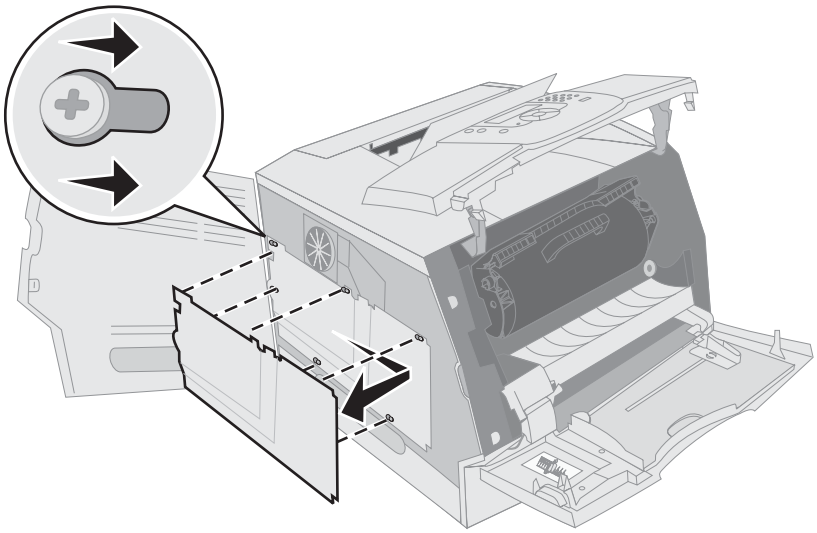
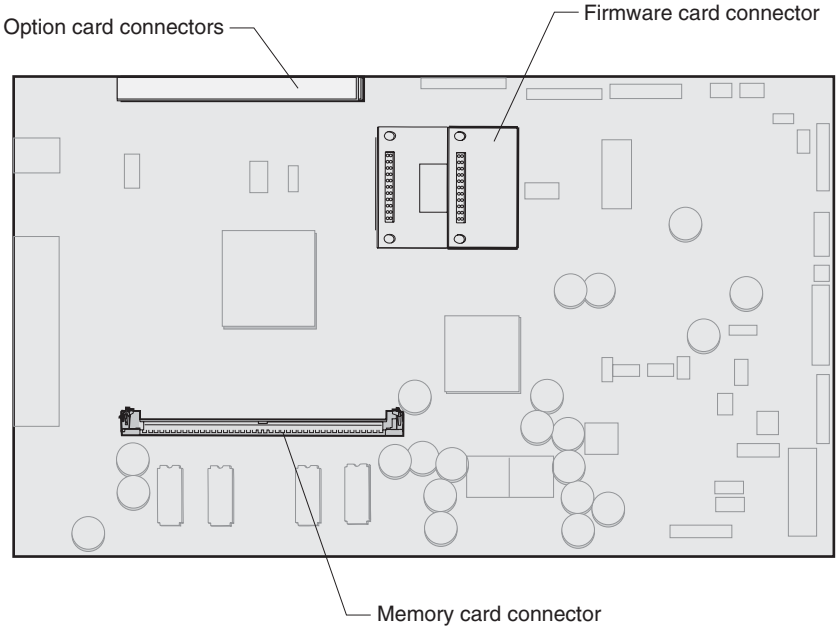
5. Slide the shield to the right, and then remove it.



6. Set the shield aside.

Use the illustration to locate the connector for the card you want to install.



Removing or installing a memory card

Removal

1. Remove the system board access cover. (See **“Accessing the printer system board” on page A-5**.)

   Warning: Printer memory cards are easily damaged by static electricity. Touch something metal such as the printer frame before you touch a memory card.

2. Push the latches away from the card on both ends of the memory card connector.

   The memory card moves out of the connector as the latches open.

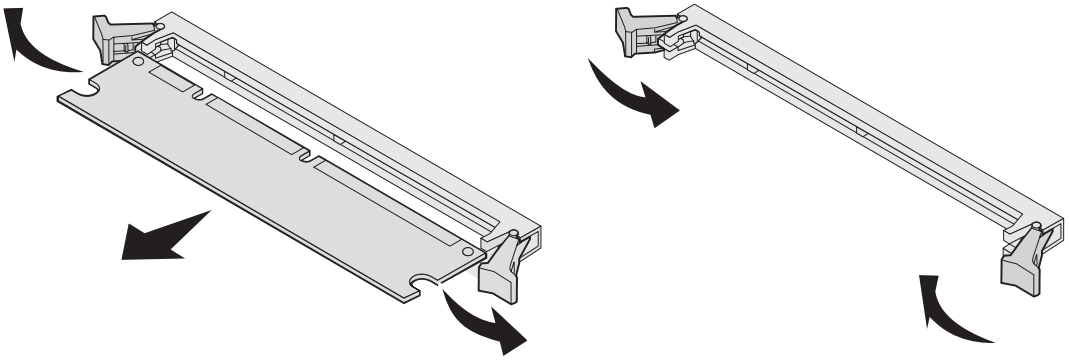
3. Pull the memory card out of the connector.

   Avoid touching the connection points along the edge of the card.

4. Place the card into the original packaging.

   If you do not have the original packaging, wrap the card in paper, and store it in a box.

5. Close both latches.



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Installation

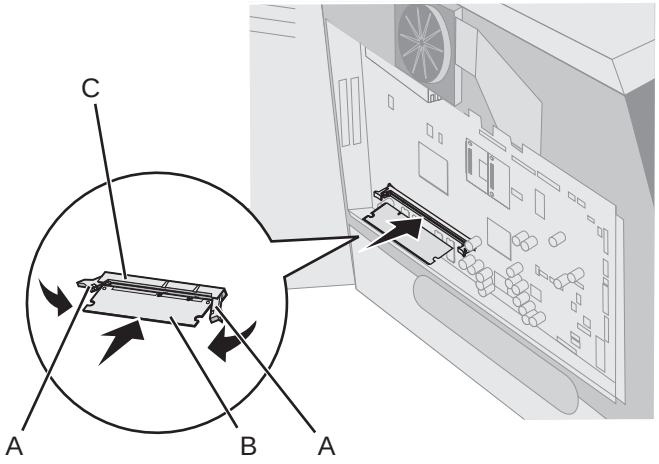
Note: Printer memory cards designed for other printers may not work with the printer.

1. Remove the system board access cover. (See **"Accessing the printer system board" on page A-5**.)

   Warning: Printer memory cards are easily damaged by static electricity. Touch something metal such as the printer frame before you touch a memory card.
2. Push open the latches (A) on both ends of the memory card connector.
3. Unpack the memory card.

   Avoid touching the connection points along the edge of the card. Save the packaging.
4. Align the notches on the bottom of the card (B) with the notches on the connector (C).
5. Push the memory card firmly into the connector until the latches on either end of the connector *snap* into place.

   It may require some force to fully seat the card.
6. Make sure each latch fits over the notch on the end of the card.



Removing or installing a flash memory or firmware card

Removal

1. Remove the system board access cover. (See **"Accessing the printer system board" on page A-5**.)

   Note: If an option card has been installed, you may need to remove the option card before removing the flash memory or firmware card.
2. Squeeze the flash memory or firmware card locking clips.
3. Pull the card out.

   Avoid touching the metal pins on the bottom of the card.
4. Place the flash memory or firmware card in its original packaging.

   If you do not have the original packaging, wrap the flash memory or firmware card in paper, and store it in a box.
5. If you removed an option card to access the flash memory or firmware card, reinstall the option card. (See **"Installing an option card" on page A-10**.)

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Installation

Note: Flash memory or firmware cards designed for other printers may not work with the printer.

1. Remove the system board access cover. (See **"Accessing the printer system board" on page A-5**.)

   Note: If an option card has been installed, you may need to remove the option card before installing the flash memory or firmware card.

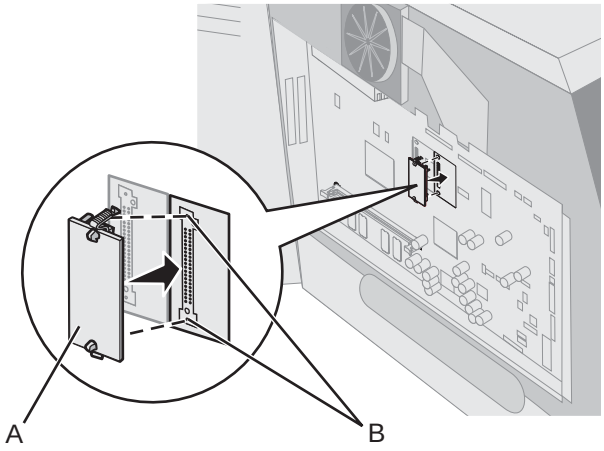
2. Unpack the flash memory or firmware card.

3. Holding the flash memory or firmware card (A) by the locking clips, align the plastic pins on the card with the holes on the system board.

4. Push the flash memory or firmware card firmly into place, and release the locking clips.

   The entire length of the connector (B) on the flash memory or firmware card must touch the system board and be locked into the connector.

   Be careful not to damage the connectors.



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Installing an option card

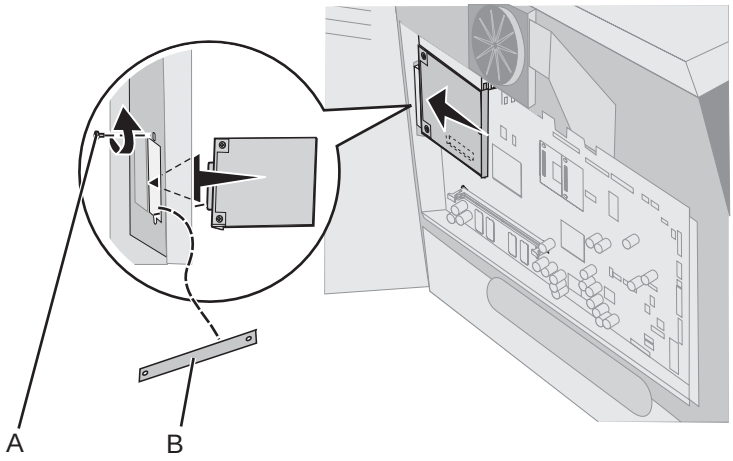
The printer has two connectors that support the following option cards:

- Hard disk with adapter card
- MarkNet N8000 series internal print server
- RS-232 Serial Interface Card
- Parallel 1284-B Interface Card
- Coax/Twinax Adapter for SCS

Warning: Option cards are easily damaged by static electricity. Touch something metal such as the printer frame before you touch an option card.

1. Locate the card connectors on the system board.
2. Remove the screw (A) and the cover plate (B), and save them.

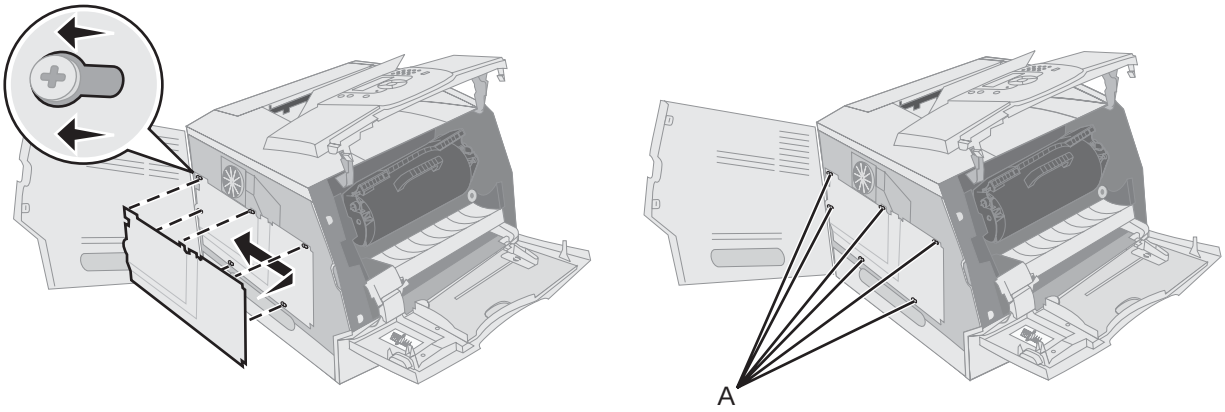
   If you are installing a tall card, install it in connector 1. If you are installing two short cards on a model with multiple connectors, use connector 1 first, and then use connector 2.
3. Unpack the card. Save the packaging materials.
4. Align the connection points on the card with the connector on the system board, and push the card firmly into the system board connector.
5. Insert the screw saved from the cover plate (or the extra screw shipped with the card).
6. Tighten the screw to secure the card.



Replacing the shield

After you have installed options on the printer system board, follow these steps to reattach the shield and close the doors.

1. Align the keyholes on the shield with the screws on the frame.
2. Slide the shield down onto the screws.
3. Tighten the six screws (A).



4. Close the side door.
5. Close the top front cover.
6. Close the multipurpose feeder.

Printing and using features

Canceling a print job

There are several methods for canceling a print job.

- Canceling a job from the printer operator panel. See **“Canceling a job from the printer operator panel” on page A-12**
- Canceling a job from a computer running Windows. See **“Canceling a job from a computer running Windows” on page A-12**.
  - Canceling a job from the taskbar.
  - Canceling a job from the desktop
- Canceling a job from a Macintosh computer. See **“Canceling a job from a Macintosh computer” on page A-12**.
  - Canceling a print job from a computer running Mac OS 9.
  - Canceling a job from a computer running Mac OS X.

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Canceling a job from the printer operator panel

If the job is formatting or already printing, and **Cancel a Job** appears on the first line of the display:

1. Press ✓.

   A list of jobs appears.

2. Press ▼ until ✔ appears next to the job requiring cancellation, and then press ✓.

   The message Canceling <*filename*> appears.

   Note: Once a print job is sent, to easily cancel the job, press ✕. The Stopped screen appears. Press ▼ until ✔ Cancel a job appears, and then press ✓.

Canceling a job from a computer running Windows

Canceling a job from the taskbar

When you send a job to print, a small printer icon appears in the right corner of the taskbar.

1. Double-click the printer icon.

   A list of print jobs appears in the printer window.

2. Select the job you want to cancel.
3. Press the **Delete** key on the keyboard.

Canceling a job from the desktop

1. Minimize all programs to reveal the desktop.
2. Double-click the **My Computer** icon.

   Note: If you do not have the **My Computer** icon, you can access the printers folder by selecting **Start** > **Settings** > **Control Panel**, and then go to step 4.

3. Double-click the **Printers** icon.

   A list of available printers appears.

4. Double-click the printer you selected when you sent the job.

   A list of print jobs appears in the printer window.

5. Select the job you want to cancel.
6. Press the **Delete** key on the keyboard.

Canceling a job from a Macintosh computer

Canceling a print job from a computer running Mac OS 9

When you send a job to print, the printer icon for your selected printer appears on the desktop.

1. Double-click the printer icon on your desktop.

   A list of print jobs appears in the printer window.

2. Select the print job you want to cancel.
3. Click the trash can button.

Canceling a job from a computer running Mac OS X

When you send a job to print, the printer icon for your selected printer appears in the dock.

1. Open **Applications** > **Utilities**, and then double-click **Print Center** or **Printer Setup**.
2. Double-click the printer you are printing to.
3. In the printer window, select the print job you want to cancel.
4. Press **Delete**.

Printing the menu settings page

You can print a menu settings page to review the default printer settings and to verify the printer options are installed correctly.

1. Make sure the printer is on.
2. Press on the operator panel.
3. Press ▼ until the ✔ appears next to **Reports**, and then press ✓.
4. Press ▼ until the ✔ appears next to **Menu Settings Page**, and then press ✓.

   The printer returns to **Ready** after the page prints.

Printing a network setup page

If the printer is attached to a network, print a network setup page on the printer to verify the network connection. This page also provides important information to configure the printer for network printing.

1. Make sure the printer is on.
2. Press on the operator panel.
3. Press ▼ until ✔ Reports appears, and then press ✓.
4. Press ▼ until ✔ Network Setup Page appears, and then press ✓.

   Note: If an optional MarkNet™ N8000 series internal print server is installed, Print Net1 Setup appears on the display.
5. Check the first section on the network setup page, and confirm that Status is “Connected.”

   If Status is “Not Connected,” the LAN drop may not be active, or the network cable may be malfunctioning. Consult a system support person for a solution, and print another network setup page to verify the printer is connected to the network.

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Printing a font sample list

To print samples of the fonts currently available for the printer:

1. Make sure the printer is on and the **Ready** message appears.
2. Press on the operator panel.
3. Press ▼ until the ✔ appears next to **Reports**, and then press ✓.
4. Press ▼ until the ✔ appears next to **Print Fonts**, and then press ✓.
5. Press ▼ until the ✔ appears next to **PCL Fonts**, **PostScript Fonts**, or **PPDS Fonts**, and then press ✓.

   The printer returns to **Ready** after the page prints.

Printing a directory list

A directory listing shows the resources stored in flash memory or on the hard disk. To print a listing:

1. Make sure the printer is on and the Ready message appears.
2. Press on the operator panel.
3. Press ▼ until the ✔ appears next to Reports, and then press ✓.
4. Press ▼ until the ✔ appears next to Print Directory, and then press ✓.

   The printer returns to Ready after the page prints.

Printing confidential and held jobs

The term *held job* refers to any type of print job that can be initiated by the user at the printer. This includes a confidential job, a verify print job, a reserve print job, a repeat print job, a bookmark, a profile, or a file on a USB flash memory device. When sending a job to the printer, you can specify in the driver that you want the printer to hold the job in memory. Once your job is stored in printer memory, go to the printer, and use the printer operator panel to specify what you want to do with your print job.

All confidential and held jobs have a user name associated with them. To access confidential or held jobs, you must first select the type of job (confidential or held), and then select your user name from the user name list. Once you select your user name, you can print all your confidential jobs or select an individual print job. You can then choose the number of copies for the print job, or you can delete the print job.

Printing a confidential job

When you send a confidential job to the printer, you must enter a personal identification number (PIN) from the driver. The PIN must be four digits using the numbers 0–9. The job is held in printer memory until you enter the same four-digit PIN from the operator panel and choose to print or delete the job. This ensures the job does not print until you are there to retrieve it. No one else using the printer can print the job without the PIN.

Windows

1. From a word processor, spreadsheet, browser, or other application, select **File** > **Print**.
2. Click **Properties**. (If there is no Properties button, click **Setup**, and then click **Properties**.)
3. Depending on the operating system, you may have to click the **Other Options** tab**,** and then click **Print and Hold**.

   Note: If you have difficulty finding Print and Hold > Confidential Print, click **Help,** see the topic Confidential Print or Print and Hold, and then follow the driver instructions.

4. Enter a User Name and PIN.
5. Send your job to the printer.

Go to the printer when you are ready to retrieve your confidential print job, and follow the <color>At the printer steps.

Macintosh

1. From a word processor, spreadsheet, browser, or other application, select **File** > **Print**.
2. In the **Copies & Pages** or **General** pop-up menu, select **Job Routing**.
   a. When using Mac OS 9, if Job Routing is not a choice on the pop-up menu, select **Plug-in Preferences** > **Print Time Filters.**
   b. Turn down the disclosure triangle to the left of **Print Time Filters**, and select **Job Routing**.
   c. In the pop-up menu, select **Job Routing**.
3. In the radio group, select **Confidential Print**.
4. Enter a User Name and PIN.
5. Send your job to the printer.

Go to the printer when you are ready to retrieve your confidential print job, and follow the <color>At the printer steps.

At the printer

1. Press ▼ until the ✔ appears next to **`Held jobs`**, and then press ✓.
2. Press ▼ until the ✔ appears next to your user name, and then press ✓.
3. Press ▼ until the ✔ appears next to **`Confidential jobs`**, and then press ✓.
4. Enter your PIN.

   For more information, see **“Entering a personal identification number (PIN)” on page A-15**.
5. Press ▼ until the ✔ appears next to the job you want to print, and then press ✓.

Note: After your job prints, it is deleted from printer memory.

Entering a personal identification number (PIN)

After you select your user name and Confidential Job, the Enter PIN screen appears.

1. Use the numeric pad to the right of the display to enter the four-digit PIN associated with your confidential job.

   Note: As you enter the PIN, asterisks appear on the display to ensure confidentiality.

   If you enter an invalid PIN, the Invalid PIN screen appears.

   Press ✓ to reenter the PIN, or press ▼ until the ✔ appears next to **`Cancel`**, and then press ✓.
2. Press ▼ until the ✔ appears next to the job you want to print, and then press ✓.

Note: After your job prints, it is deleted from printer memory.

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Printing and deleting held jobs

Held jobs (Verify Print, Reserve Print, or Repeat Print) are printed or deleted from the printer operator panel and do not require a PIN number.

Verify Print

If you send a Verify Print job, the printer prints one copy and holds the remaining copies you requested in printer memory. Use Verify Print to examine the first copy to see if it is satisfactory before printing the remaining copies. Once all copies are printed, the Verify Print job is automatically deleted from printer memory.

Reserve Print

If you send a Reserve Print job, the printer does not print the job immediately. It stores the job in memory so you can print the job later. The job is held in memory until you delete it from the Held Jobs menu. Reserve Print jobs may be deleted if the printer requires extra memory to process additional held jobs.

Repeat Print

If you send a Repeat Print job, the printer prints all requested copies of the job *and* stores the job in memory so you can print additional copies later. You can print additional copies as long as the job remains stored in memory.

Note: Repeat Print jobs are automatically deleted from printer memory when the printer requires extra memory to process additional held jobs.

Windows

1. From a word processor, spreadsheet, browser, or other application, select **File** > **Print**.
2. Click **Properties**. (If there is no Properties button, click **Setup**, and then click **Properties**.)
3. Depending on the operating system, you may have to click the **Other Options** tab, and then click **Print and Hold**.

   Note: If you have difficulty finding Print and Hold > Held Jobs, click **Help**, and see the topic Held Jobs or Print and Hold, then follow the driver instructions.
4. Select the type of held job you want, and then send your job to the printer.

Go to the printer when you are ready to retrieve your confidential print job, and follow the <color>At the printer steps.

Macintosh

1. From a word processor, spreadsheet, browser, or other application, select **File** > **Print**.
2. In the **Copies & Pages** or **General** pop-up menu, select **Job Routing**.
   a. When using Mac OS 9, if Job Routing is not a choice on the pop-up menu, select **Plug-in Preferences** > **Print Time Filters.**
   b. Turn down the disclosure triangle to the left of **Print Time Filters**, and select **Job Routing**.
   c. In the pop-up menu, select **Job Routing**.
3. In the radio group, select the type of held job you want, enter a user name, and then send your job to the printer.

   Go to the printer when you are ready to retrieve your confidential print job, and follow the <color>At the printer steps.

At the printer

1. Press ▼ until the ✔ appears next to **Held jobs**, and then press ✓.
2. Press ▼ until the ✔ appears next to your user name, and then press ✓.
3. Press ▼ until the ✔ appears next to the type of action you want to perform, and then press ✓.

Print All	**Delete All**
Print A Job	**Delete A Job**
Print Copies	

If you selected Print A Job, Delete A Job, or Print Copies, press ▼ until the ✔ appears next to the job you want, and then press ✓.

The job will print or be deleted according to the type of print job and action you selected.

Linking trays

Tray linking enables the automatic linking feature for trays when you load the same size and type of print media in multiple sources. The printer automatically links the trays; when one tray is empty, print media feeds from the next linked tray.

For example, if you have the same size and type of print media loaded in tray 2 and tray 4, the printer selects print media from tray 2 until it becomes empty, and then the printer automatically feeds print media from the next linked tray—tray 4.

By linking all trays (standard and optional), you effectively create a single source with a capacity of up to 4,100 sheets.

Make sure you load the same size and type of print media in each tray in order to link the trays.

Set the paper size and type for each tray, to set the paper type or size:

1. Press ⚿ on the operator panel.
2. Press ▼ until the ✔ appears next to `Paper Menu`, and then press ✓.
3. Press ▼ until the ✔ appears next to `Paper Size/Type`, and then press ✓.
4. Press ▼ until the ✔ appears next to `Tray <x> Size/Type`, and then press ✓.
5. Press ▼ until the ✔ appears next to the paper size you loaded, and then press ✓.
6. Press ▼ until the ✔ appears next to `Tray <x> Size/Type`, and then press ✓.
7. Press ▼ until the ✔ appears next to the paper type you loaded, and then press ✓.

   The printer returns to `Ready`.

To disable tray linking, set the Paper Type to a unique value in each one of the trays. If all the trays do not have the same type of print media when they are linked, you could mistakenly print a job on the wrong paper type.

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Identifying and linking output bins

There is one standard output bin on all printer models. Depending on the model you selected, your output bin capacity is 250 or 500 sheets. If you need additional output capacity, there are several optional output bins available for your printer.

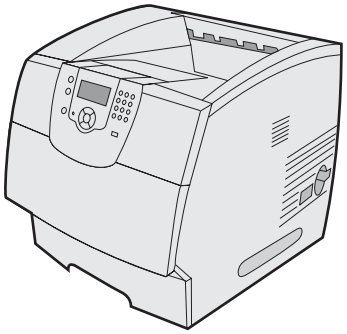
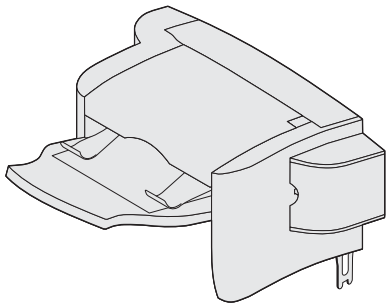
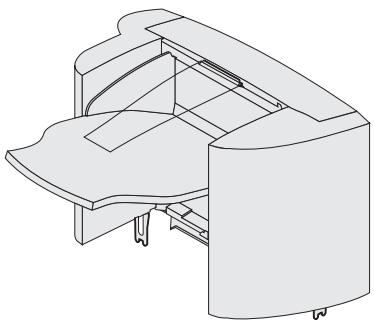
If you have multiple output bins, you can link them into a single output source. Linking output bins lets the printer automatically switch output to the next available bin.

Output bins available

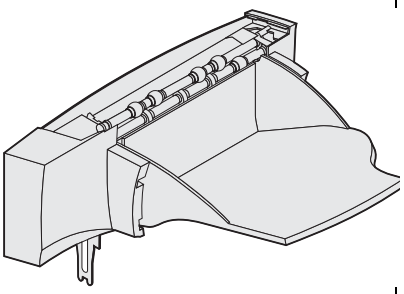
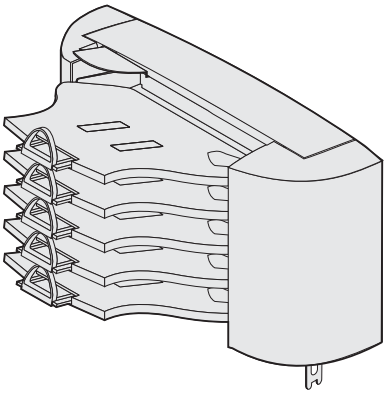
The following table provides information on standard and optional output bin capability and connectivity.

Note: Not all output bins support every paper and envelope size.

Output bins

Output bin name	Each bin accommodates		How many can be installed on the printer	Bin is allowed to connect with	Illustration of output bin
	Print media	Printer Models			
Standard bin	• 250 sheets (75 g/m^2) of plain paper • 150 transparencies • 100 labels • 25 envelopes (75 g/m^2)	T640	N/A—one is standard on the printer and located on top of the printer	Any of the options in combinations as follows in this column	
Standard bin	• 500 sheets (75 g/m^2) of plain paper • 300 transparencies • 200 labels • 50 envelopes (75 g/m^2)	T642 T644			
Finisher	Sheets of 75 g/m^2 of plain paper (maximum number of stapled jobs is 40) T640 500 sheets T642 750 sheets T644 750 sheets	T640 T642 T644	1	1 output expander or 1 5-bin mailbox *	
High-capacity output stacker	• 1850 sheets (75 g/m^2) of plain paper • Envelopes (capacity will vary, depending on the media weight.)	T640 T642 T644	1	1 output expander *	

Output bins (continued)

Output bin name	Each bin accommodates		How many can be installed on the printer	Bin is allowed to connect with	Illustration of output bin
	Print media	Printer Models			
Output expander	• 650 sheets (75 g/m^2) of plain paper • 50 envelopes (75 g/m^2)	T640 T642 T644	3	1 5-bin mailbox, 1 high-capacity output stacker, or 1 finisher *	
5-bin mailbox	120 sheets (75 g/m^2) of plain paper for each of the five bins for a total of 600 for all bins	T642 T644	2	1 output expander or 1 finisher *	
* See the *Setup Guide* for information on how to install options in relation to each other.					

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Linking output bins

Linking output bins lets you create a single output source so the printer can automatically switch output to the next available bin. You can also set the output type for media such as card stock or envelope sizes that cannot be sent to an optional output bin. For more information on the values available to configure your output bins, refer to the *Menus and Messages Guide*.

Note: The bin sequence for linking always starts with the Standard Bin and proceeds from the Bin nearest to the floor to the Bin farthest from the floor.

To link output bins:

1. Press on the operator panel.
2. Press ▼ until the ✔ appears next to `Paper Menu`.
3. Press ✓.
4. Press ▼ until the ✔ appears next to `Bin Setup`.
5. Press ✓.
6. Press ▼ until the ✔ appears next to `Configure Bins`.
7. Press ✓.
8. Press ▼ until the ✔ appears next to `Link`.
9. Press ✓.

   The printer returns to the `Ready` state.

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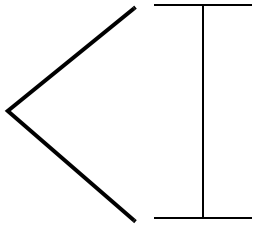
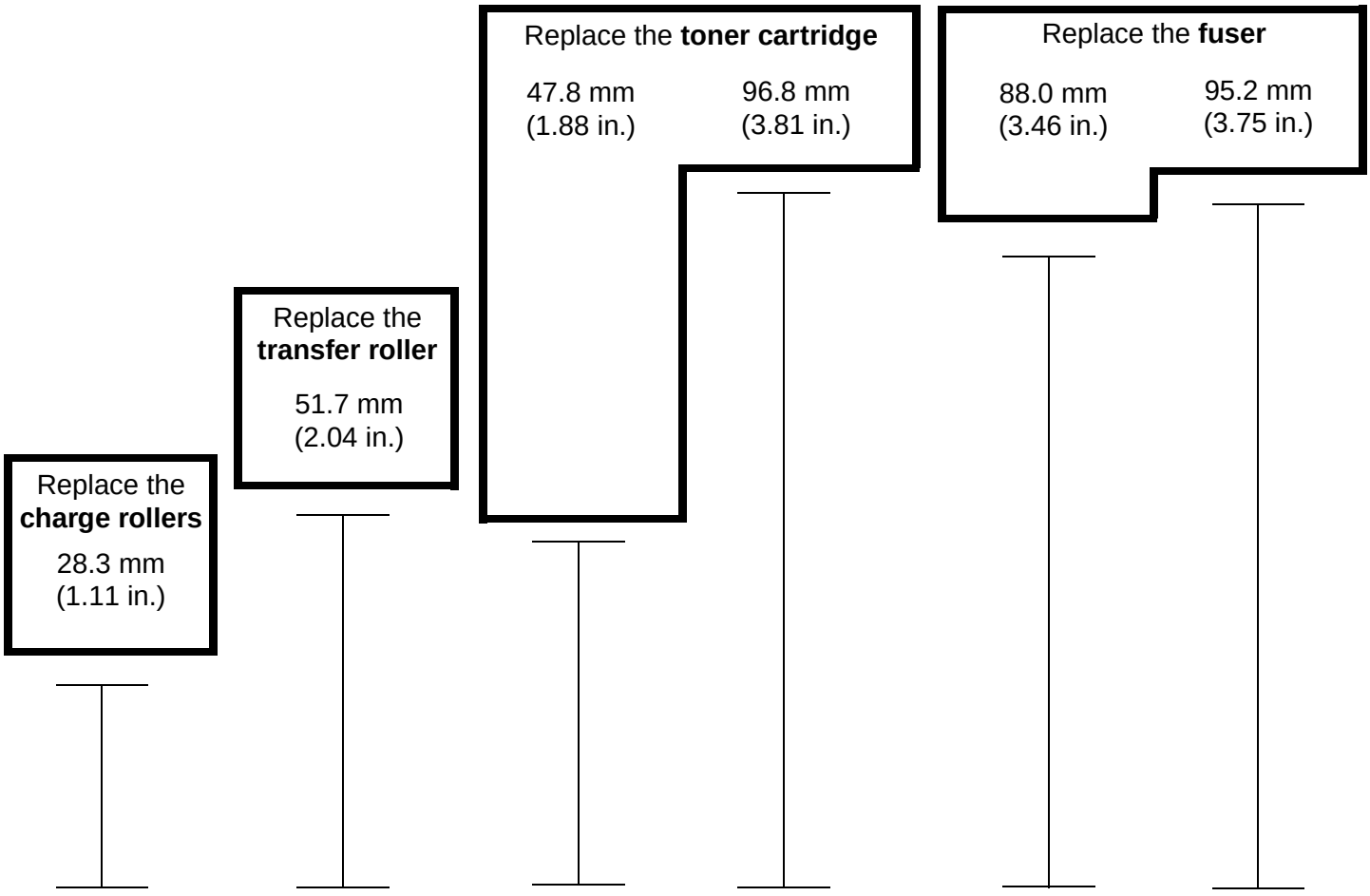
Print defects guide

Match a set of repeating defects on a print job to the marks on one of the vertical lines. The line that best matches the defects on the print job indicates which particular part may be causing the defect.

For example, the distance between these two marks represents a repeating defect that occurs every 28.3 mm (1.11 in.), which means the charge rollers may need to be replaced.



Note: If the defect appears on the printed side of a single-sided print job, replace the **toner cartridge** before replacing the **fuser.**



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Lexmark T64x (4061) Wiring diagram